MINISTRY OF NATURAL RESOURCES

Cambridge District

LAND USE GUIDELINES

Ontario
Ministry of Natural Resources
Hon. Alan W. Pope
Minister
W. T. Foster
Deputy Minister

1983

Map 1

CAMBRIDGE DISTRICT

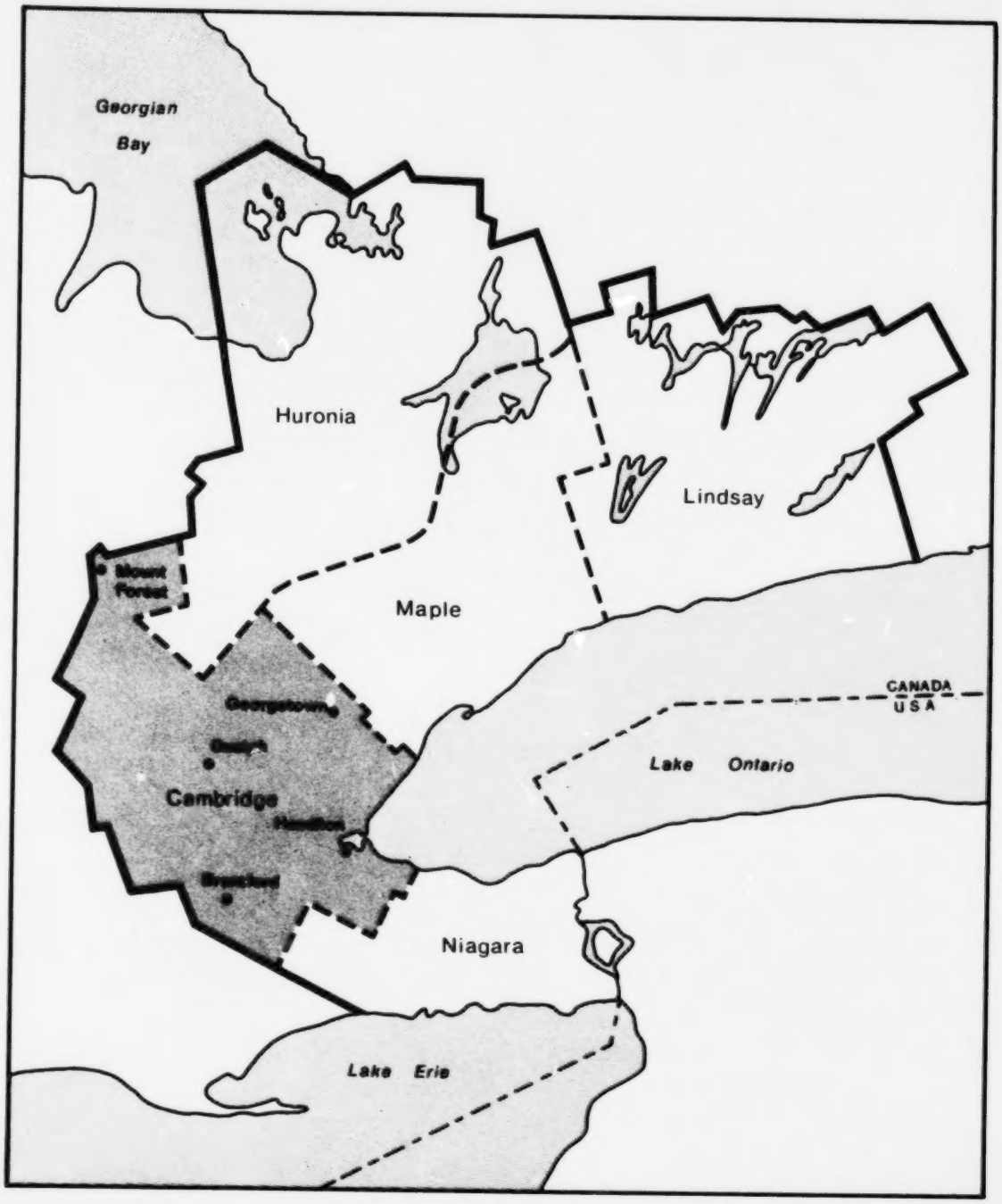
REGIONAL SETTING

10 0 10 30 50mi
10 0 10 20 30 40km

N

LEGEND

- MINISTRY of NATURAL RESOURCES REGIONAL BOUNDARY
- MINISTRY of NATURAL RESOURCES DISTRICT BOUNDARY
- CAMBRIDGE DISTRICT



FOREWORD

The Ministry of Natural Resources has a primary responsibility for the management of the province's natural resources, in particular those related to resource development and outdoor recreation.

This document will serve as a design for integrated resource development in the Cambridge District. It is also intended to provide others with an understanding of the ministry's mandate and its programs which rely on both Crown and private lands for success.

To ensure an integrated approach the *Cambridge District Land Use Guidelines* identify where and in what manner the ministry may use Crown land, and to what extent it may wish to suggest uses of private land, in working towards the achievement of ministry objectives.

For Crown land the ministry must consider the land and water requirements for both its own programs and those of other government agencies. This will require ongoing liaison with these other agencies. The ministry will continue to consult with private landowners and local municipalities since the latter have the responsibility for control of private land use.

The program targets and approaches outlined in this document follow the overall direction outlined in the ministry's *Southern Ontario Co-ordinated Program Strategy.* The *Land Use Guidelines* may serve as one of the sources of information for ministry involvement in the planning process of municipalities and other agencies. It is recognized, however, that this document has no legal status.

Planning is a continuous process and must be responsive to changing needs, information and technology. Thus the targets and strategies presented in this document are subject to revision based on such factors as changes in government policy, new or refined resource information, and significant changes to land use in other planning documents. To accommodate changes the *Land Use Guidelines* will normally be reviewed every ten years and will involve full public consultation.

Comments may be addressed to the District Manager at any time.

Michèle Fordyce

Regional Director
Central Region

W. L. Catton

District Manager
Cambridge District

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I INTRODUCTION

The Ministry of Natural Resources has a number of programs (Table 1) to ensure the availability of renewable and non-renewable resources—wood products, mineral aggregates, fish, wildlife, parks, natural and scientific areas, and public lands and waters. It regulates their use for the long term benefit of the people of Ontario.

To manage these resources effectively the ministry has developed a multi-level planning system. Table 2 illustrates the hierarchy of planning levels.

In southern Ontario, ministry planning began with the development of the *Southern Ontario Co-ordinated Program Strategy* which outlines the objectives, targets and general direction which the ministry proposes to pursue.

The *Cambridge District Land Use Guidelines* present the local application of the policy direction outlined in the *Southern Ontario Co-ordinated Program Strategy*. The *Land Use Guidelines* essentially identify appropriate land and water areas in the Cambridge District which may be important for the achievement of the ministry's objectives.

The Cambridge District encompasses an area of approximately 7,000 square kilometres (2,700 square miles) in southern Ontario's industrial and agricultural heartland (Map 1). The majority of its natural resources lie upon or beneath private land. In fact, only 0.2% of the land base is Crown land.

This document is based on a recognition that the planning control of private land in municipalities is exercised by those municipalities under the authority of the *Planning Act* administered by the Ministry of Municipal Affairs and Housing.

The ministry recognizes that private landowners, other government agencies, municipalities, conservation authorities and interest groups are key partners in any effort to achieve effective and co-ordinated resource management. The ministry will continue to work with these groups, and especially with municipalities, through the ministry's plan input and review program, to ensure that resource values are considered in local planning documents.

There will be instances when the ministry and others, for example another government agency, will have different intentions for the same area. When such situations are identified, the ministry will enter into negotiations to arrive at an acceptable solution.

The way in which the ministry hopes to work with municipalities, conservation authorities, and others (for example the Niagara Escarpment Commission, and the Ontario Ministry of Agriculture and Food) is outlined in the application section.

Public consultation in the preparation of this document began with the holding of open houses in June, 1982. At that time, the public was provided with an overview of the ministry's role and responsibilities and provided with a perspective to assist in the review of the draft *Cambridge District Land Use Strategy*[1] which was nearing completion.

In July, 1982, the draft *Cambridge District Land Use Strategy* was released and in July/August, additional open houses were held to explain the direction proposed in the *Land Use Strategy* and to invite public comment. In addition to receiving many verbal and written comments as a result of the open houses, the ministry held follow-up meetings with municipalities and conservation authorities at their request.

Based on the analysis and evaluation of all the public input received, this document was prepared.

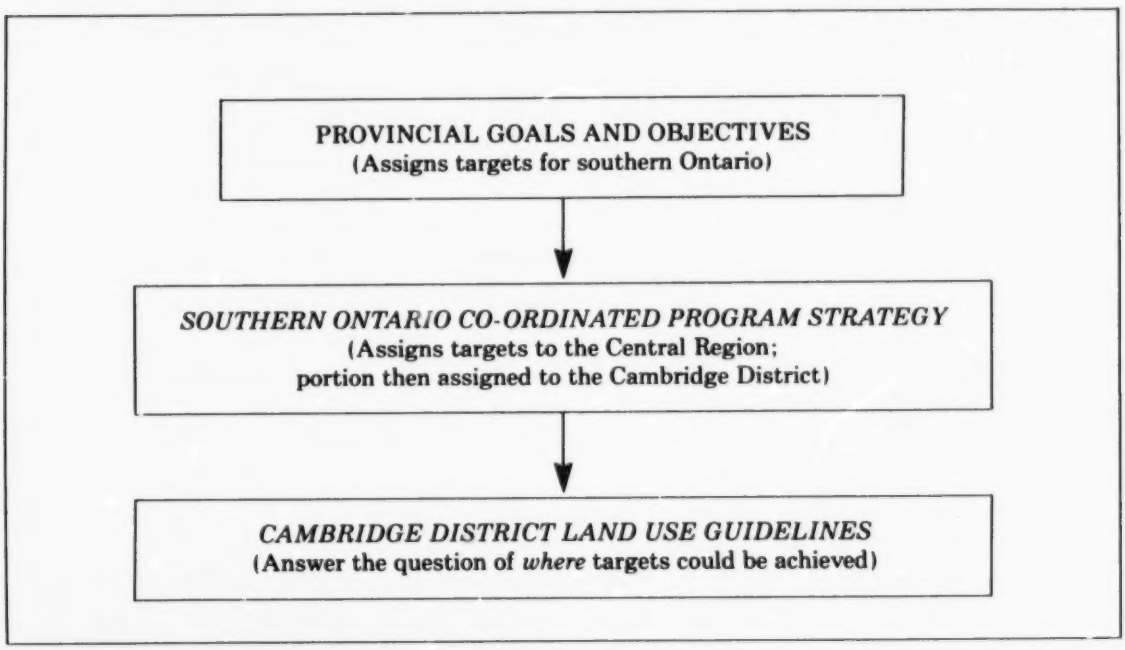
(1) Cambridge District Land Use Strategy** was the former name of the **Cambridge District Land Use Guidelines.

TABLE 1 CAMBRIDGE DISTRICT PROGRAMS(1)

Forest Management	Lands, Mineral Resources	Fish and Wildlife	Parks
Management Plans	Disposition	Inventory	Park Operations
Silvicultural Operations	Acquisition	Predator Control	Interpretation
Agreement Forests	Inspections	Public Hunting and Fishing Areas	Recreational Areas
Extension Services	Licences and Permits	Extension Services	Extension Services
Wood Measurement	Pits and Quarries	Licences and Permits	Natural and Scientific Areas
Licences	Enforcement	Enforcement	Protection and Representation
	Inventory		Inventory
	Plan Input and Review		

(1) Chart highlights key functions only.

TABLE 2 PLANNING HIERARCHY OF THE MINISTRY OF NATURAL RESOURCES


PROVINCIAL GOALS AND OBJECTIVES
(Assigns targets for southern Ontario)
SOUTHERN ONTARIO CO-ORDINATED PROGRAM STRATEGY
(Assigns targets to the Central Region;
portion then assigned to the Cambridge District)
CAMBRIDGE DISTRICT LAND USE GUIDELINES
(Answer the question of where targets could be achieved)

Many of the responses expressed concerns regarding mineral resource planning and the need to integrate provincial resource objectives with land use plans developed by regional and local governments.

Copies of all comments received are available for viewing in the district office, the ministry's main office public reading room and the Legislative Library at Queen's Park. Details of the public consultation program are found in an appendix to this report.

The policies and maps in this document have been developed to give positive direction for future management. They are based on a combined evaluation of land capability and suitability; existing resource use; present and proposed land use; demand; and public interest. This evaluation has led to the identification of important or "strategic" areas where the ministry will concentrate its resource management efforts to achieve its stated objectives.

The targets which have been established are based

on a moderate rate of growth of about 1 to 2 percent per year consistent with provincial projections. Targets provide a measurable indication of the degree of achievement of certain ministry program policies.

The *Land Use Guidelines* will direct ministry program activity in the Cambridge district to the year 2000. It is not intended, however, that all targets be achieved immediately. The intent is to aim for target achievement over the next 20 to 40 years. The planning horizon for forestry extends to the year 2020 owing to the long term needed to plan for this resource. The *Land Use Guidelines* do not specifically account for mineral resource needs after the year 2000. However, continuing and changing demands for non-renewable mineral resources will necessitate longer term planning.

A number of factors may affect achievement of the stated targets including:

- validity of the original assumptions on which the target was based;
- Legislative approval of necessary funding and staffing required to carry out the level of resource management on which target achievement was based;
- changing economic and social conditions on a local or provincial basis;
- new or improved inventory and information which could result in a change of the original estimates; and
- a more thorough analysis of original information.

Where there are changes in targets, whether for the above or other reasons, this document will be amended accordingly.

This document is best viewed as a set of working guidelines which will be subject to review and re-evaluation.

In the sections that follow, details of the *Land Use Guidelines* are presented. Chapter II presents general policies established at a provincial level. Chapter III contains specific objectives, targets, and the strategies for achieving them. These are followed by Chapter IV which deals with the application of the *Land Use Guidelines*. At the end of the document there is an appendix summarizing the public consultation program and a glossary.

Direction for ministry activities in the Cambridge district is provided in two chapters: General Policies, and Specific Policies. The general policies, which are outlined below, deal with integrated resource management, public safety, environment and energy. These policies apply to all ministry programs. Specific policies, which are presented in chapter III, provide additional direction to each ministry activity. The contribution which each program will make to the application of the general policies is elaborated on in the specific policies for each program.

A: integrated resource management

1. POLICY STATEMENT

Programs will be integrated to ensure the efficient use of land and water to achieve ministry objectives.

2. STRATEGY

- apply the concept of multiple use to land and water resource management. This means that the ministry will normally undertake two or more compatible activities on the same major areas concurrently or sequentially over time; and recognize that, in some circumstances, management of areas for a single purpose such as extraction, protection or recreation is necessary;
- ensure that each program contributes, to the extent possible, to the achievement of other program objectives. Individual area management plans, including water management plans, will be directed to achieving as many ministry objectives as possible to ensure integrated management and increased efficiency;
- permit interim use of candidate parks, providing park values are protected. Uses and facilities which complement the achievement of park objectives will be encouraged; uses which have no significant negative impact on the long term achievement of park objectives will be permitted with judicious controls; and, uses which would conflict with the long term achievement of park objectives will be prohibited; and
- implement the resource management integration guidelines outlined in each program section.

B: public safety

1. POLICY STATEMENT

The ministry will seek to eliminate loss of life and to minimize property damage and community disruption resulting from floods, erosion, earth slippage and forest fires.

The ministry will seek to eliminate injury and loss of life from hazards around abandoned pits, quarries and mine shafts and from abandoned oil and gas wells.

The ministry will promote the safe pursuit of outdoor recreation and resource production activities.

2. DISCUSSION

In the Cambridge District, public safety concerns related to flooding, erosion and earth slippage are dealt with in cooperation with local conservation authorities. Through plan input and review the district attempts to ensure that development avoids areas susceptible to these hazards or occurs only with adequate protection and safeguards. Other actions that the ministry takes include participating in contingency planning and cooperating with conservation authorities and other agencies in the identification of floodplains and other hazardous sites in developed and developing areas.

The ministry's actions regarding flood hazards are guided by provincial floodplain management policy.

The Ministry of Natural Resources has responsibility for forest fire management in Ontario. This responsibility is shared with municipalities and with landowners and resource users.

The fire management program of the ministry performs a support function that provides expert knowledge and specialized services in matters of fire control and fire use to groups within and outside the ministry. These services relate to preventing the occurrence of wildfires and controlling those wildfires that threaten values.

In the Cambridge District, forest fire protection services are normally provided by municipal agencies. The ministry can play a significant role in developing municipal expertise in minimizing risks from forest fires and in emergency planning.

3. STRATEGY

The strategy for the achievement of the public safety policy statement is discussed in the program sections.

C: environment

1. POLICY STATEMENT

The ministry will conduct its activities in an environmentally responsible manner.

2. DISCUSSION

All programs of the ministry share in the responsible management of natural resources. This involves managing renewable resources on a biologically sound basis, and managing non-renewable resources to meet current demands, giving attention to anticipated future needs. Where environmental impacts are inevitable, mitigating measures and/or rehabilitation are used.

All programs contribute to achieving the broad objective of identifying and conserving unique, representative or endangered physical, biological, cultural and historical features of the province.

The ministry is very concerned about the potential impact of acid rain on Ontario's resources. Although it is believed that acid rain will have a relatively small effect on fisheries in the Cambridge district, the ministry does have concerns with respect to the possible effects of acid rain on vegetation. The ministry will work closely with other government agencies to monitor the effect of contaminants such as acid rain on natural resources.

The ministry will encourage consideration of all wetland values in municipal planning and the planning of other agencies. A specific wetlands policy will be issued by the ministry in the near future.

3. STRATEGY

The strategy for the achievement of the environment policy statement is discussed in the program sections.

D: energy

1. POLICY STATEMENT

The ministry will undertake its activities so as to contribute to provincial energy objectives.

2. DISCUSSION

Ontario is committed to a major effort to increase its energy self sufficiency. The district's major contribution will be the encouragement of fuelwood harvest as a part of good forest management. Other contributions can be made through the use of propane powered vehicles, use of solar water heaters in park facilities, and the reduction of energy consumption in ministry buildings.

3. STRATEGY

The strategy for the achievement of the energy policy statement is discussed in the program sections.

A: forestry

1. OBJECTIVE

The objective for forestry in southern Ontario is to provide for an optimum contribution to the economy by forest-based industries consistent with sound environmental practices and to provide for other uses of the forest.

2. TARGETS

The targets for forestry in the Cambridge District are:

- to produce an annual continuous supply of 158,900 cubic metres (5,610,000 cubic feet) of wood for industrial purposes by the year 2020 while maintaining the present diversity of forest products; and
- to make the maximum contribution from forest production to the achievement of the provincial energy target.

3. RESOURCE ANALYSIS

Soils and climate in the Cambridge District provide some of the best growing conditions in Ontario for quality hardwoods. Exceptions to this occur mainly where soils are shallow over bedrock or where soil drainage is restricted. Much of the forest cover is made up of maple, beech, basswood, yellow birch, oak, ash, hickory, and ironwood. Pines, hemlocks, cedars and spruces are the most common conifers.

A small portion of the deciduous Carolinian forest, which is widespread in the eastern United States, extends into the district. Along with the deciduous trees common to the Great Lakes—St. Lawrence Forest Region, a number of other species which have their northern limits in this locality can be found. Among these are the tulip-tree, red mulberry, sassafras, black oak, black walnut, and sycamore.

The forests currently being harvested provide high quality sawlogs and veneer logs for the production of raw material for the furniture industry. Trees of lower quality produce wood used for other products such as pallets and posts.

Mill returns for 1980 report that 70,000 cubic metres (2,472,000 cubic feet) of wood were processed within the district not including fuelwood. Currently the sawmills are supplied from both the Cambridge and neighbouring districts and a large percentage of the logs milled for veneer are imported from the United States.

The determining factor in target achievement will be the quantity of hardwood that forests grow each year. Present growth is estimated to be about 126,100 cubic metres (4,468,000 cubic feet) of wood annually (Table 3). This is an estimate of net merchantable volume.

It is possible to achieve the target on existing forested land, although an increase in productivity (i.e., growth) is required. Average production for all hardwood stands must climb from the current 2.3 cubic metres per hectare (33 cubic feet per acre) to 3.2 cubic metres per hectare (46 cubic feet per acre). Under very intensive management, woodlots on the best sites in the district are capable of producing 7 cubic metres of wood per hectare per year (100 cubic feet per acre per year). Without management, increases in productivity are unlikely.

Fuelwood production is an important benefit associated with forested land in the district. However, it has not been considered or counted as part of the target for industrial wood. Rather, it is considered to be a valuable by-product resulting from cutting operations designed to increase overall production in woodlots. Inferior growing stock removed during thinning operations and tops from sawlog operations will be the primary source of fuelwood.

About 96% of the total forested land or 74,400 hectares (186,000 acres) in the district is privately owned. Public forests account for the remaining 4%. This includes forests on Crown land, lands owned by conservation authorities, and agreement forests. The agreement forests are lands owned by counties, regional governments, and conservation authorities which are managed under agreement by the ministry. Both public and, more importantly,

TABLE 3 LAND BASE POTENTIALLY AVAILABLE FOR WOOD PRODUCTION[1]

	Hectares	Acres
Total Forested Lands	78,500	194,000
Deductions:		
— low production capability	23,600	58,300
— forested land within urban and proposed urban areas[2]	1,500	3,800
— productive forested land within areas of natural and scientific interest (life science)[2]	3,800	9,400
— forested land on properties licenced for mineral extraction[2]	500	1,300
Land base potentially available for harvesting	49,100	121,200

(1) This table will be revised when the new Forest Resource Inventory for the district is analysed.
(2) Sustained production may be possible in some of these areas.

TABLE 4 FORESTRY SUMMARY

Target for production in 2020	158,900 cubic metres	(5,610,000 cubic feet)
Estimated present production[1]	126,100 cubic metres	(4,468,000 cubic feet)
Average production required to achieve target[1]	3.2 cubic metres/hectare	(46 cubic feet/acre)
Average present production[1]	2.3 cubic metres/hectare	(33 cubic feet/acre)
Present harvest[2]	70,000 cubic metres	(2,472,000 cubic feet)

(1) Present production refers to growth and is not the current harvest. Only quality hardwoods are considered. Production estimates refer to net merchantable volume.
(2) Excludes fuelwood, but includes some wood from outside the district.

private forests must be managed to achieve the wood production target.

It is difficult to predict how much of the forest on private lands will be producing higher quantities of wood by the year 2020. The large number of individual landowners involved and the small size and scattered distribution of woodlots make it difficult to manage the resource effectively. Ultimately, success in achieving the targets will depend upon the willingness of landowners to carry out forest management (either independently or with ministry assistance).

It is likely that full production potential may not be realized in:

- significant areas of natural and scientific interest;
- areas designated by local and regional governments as environmentally sensitive or significant;
- deer concentration areas;
- high potential mineral resource areas; and
- urban and urbanizing areas.

There are 50,600 hectares (125,000 acres) of open land in the district that are suitable for reforestation. These lands have a low capability or severe restrictions for agricultural use. Although some existing plantations will provide wood volumes as thinnings are carried out, they will not contribute significantly to target achievement. As well, production will be in the form of pulpwood, shavings, and posts, and not in the form of saw-logs and veneer which are required to meet the target.

New information resulting from recent forest resource inventories will be analyzed in the near future. This analysis will likely lead to a revision of Tables 3 and 4.

4. PROGRAM STRATEGY

a. Contribution to General Policies

Public Safety:

- prepare and implement a fire management plan;
- develop cooperative fire prevention and control agreements with municipalities; and
- ensure that development and harvesting activities in forested areas are designed to reduce the possibility of fire spread.

Environment:

- manage forests to protect provincially rare and endangered animals and plants;
- prepare and implement class and individual environmental assessments where required; and
- ensure that marking for selective cutting is sensitive to the ecological significance of wooded areas.

Map 2

CAMBRIDGE DISTRICT

FORESTRY

LEGEND

- Township Boundary
- County or Regional Boundary
- MNR District Boundary

Important Resource Areas

- High Forest Management Potential
- Moderate Forest Management Potential
- Low Forest Management Potential
- Urban and Urbanizing Areas

N

0 5 25 Kilometres

0 4 16 Miles

The information shown has been generalized due to scale limitations.
Detailed current information can be obtained from the District Office.

1983

To implement the energy policy, district forestry staff will:

- encourage the harvest of fuelwood; and
- participate in studies on the feasibility of establishing hybrid poplar plantations for energy production.

The contribution to the integrated resource management policy is outlined in section c. Resource Management Integration Guidelines.

b. Important Resource Areas and Area Strategies

To increase the supply of quality wood products to the level required to meet the target, district staff will attempt to:

- increase wood production in existing forests;
- seek ways to ensure long term management of forests; and
- discourage indiscriminate cutting practices.

Wherever possible, these efforts will be directed to lands where both the production potential and the long term management potential are high.

The most important areas for forest management are existing upland hardwood woodlots and plantations on very productive (Class 1 Forestry) lands designated for rural or agricultural uses.

Generally, these high potential forest management areas are found in parts of the district where site conditions are good and where pressures from competing land uses are lower (Map 2). Forest management efforts will primarily be devoted to these areas.

Townships and area municipalities with substantial areas of high potential lands are the following:

Blenheim	Nichol	Wellesley
Brantford	North Dumfries	West Luther
Guelph	Pilkington	Wilmot
Milton	South Dumfries	Woolwich

Through promotion of extension services and assistance programs, landowners in high potential areas will be encouraged to manage their woodlots to produce high quality maple, ash, oak, and cherry saw and veneer logs and associated fuelwood. The production of quality wood products, although the primary concern, will be carried out in a manner that will consider the objectives of the landowner and local environmental concerns. District staff will encourage private and public landowners to bring their woodlots under management agreements with the ministry. Detailed plans will be prepared for forests managed under agreements.

Management in these high potential areas will be aimed primarily at maintaining the forest as an economic resource, through selective cutting. This will involve repeated thinnings of a woodlot usually at 10-15 year intervals and provide for the retention of superior trees as a source of seed for reforestation. Marking programs for these lands will be designed to control improper harvesting practices; to enhance the commercial value of the forest; to increase the quality of the wood being produced; and to sustain wood harvesting.

Ranking second in order of importance are existing hardwood woodlots on productive forest lands (Class 2 to 5 Forestry) in agricultural areas. Areas which include a significant proportion of this type of woodlot are shown as medium potential on Map 2.

Extension and assistance programs will be available to landowners as on high potential lands, but management effort aimed at producing quality wood products will be less intensive. The achievement of other appropriate objectives will be emphasized in management prescriptions. These objectives may include wildlife habitat enhancement, watershed protection, extensive recreation, or the production of secondary forest products such as posts or fuelwood.

Low potential forest management lands are those marginal agricultural lands where tree planting will contribute to the achievement of ministry objectives.

It is recognized that tree planting will not contribute significantly to the production of quality wood products by the year 2020. Over the long term (beyond the year 2020) planted areas will begin to contribute to the production of quality wood products as the softwood species are gradually replaced by hardwoods.

Planting will be aimed at creating new forest cover where it is most needed. Lands that would best qualify include those which:

- have existing soil erosion problems;
- lie adjacent to strategic cold water fisheries habitat;
- require forests to enhance public recreation opportunities;
- would contribute significantly to public safety (e.g., would reduce flood risks); and
- have good potential for sustained production and harvesting of quality hardwoods.

Urban and urbanizing areas have been identified as separate areas on Map 2. Many of these areas, particularly those in the cities of Kitchener, Waterloo, Brantford and the Town of Oakville

contain highly productive woodlots. However, the long term prospect of sustained wood production and harvesting on these forest lands is uncertain. District staff will limit their management activities on these lands, unless sustained yield can be assured to the year 2020. Nevertheless, district staff will encourage municipalities to develop policies aimed at protecting forests in urban areas for other forest related benefits.

District staff will continue to manage municipal and conservation authority agreement forests to meet both the ministry's and the owners' objectives. Management aimed at increased productivity will be primarily directed to agreement forests capable of sustaining continued cycles of harvesting and of producing high quality wood products. District staff will also work to enhance recreational benefits in agreement forests. Particular attention will be paid to management of recreational values in the most suitable and popular agreement forests.

Lands owned by conservation authorities can contribute to the wood production target. District staff will encourage conservation authorities to maintain and/or increase production in their best hardwood forests.

Map 2 displays broad areas with different forest management potentials. It should be recognized that within these broad areas there are pockets of forested land which have a different potential than the one indicated. In most cases, an individual assessment of each woodlot will be necessary to determine specific management prescriptions.

c. Resource Management Integration Guidelines

(i) Forestry staff will provide technical advice and assistance to the other programs in the management of forestry aspects of their projects and properties.

(ii) Those forest management projects that protect or enhance cold water streams and their headwaters will be given special consideration during project selection.

(iii) Forest management may take place in provincial parks for demonstration purposes, park development, or as part of approved park management activities according to master plans and to provincial parks planning and management policies.

(iv) Forest management may occur in candidate parks, with judicious controls, if it will have no significant negative impact on the long term achievement of park objectives and if it is conducted within the framework of approved management guidelines.

(v) Forest management in significant areas of natural and scientific interest will require prior consultation with parks staff.

(vi) Forest management practices will be co-ordinated with fish and wildlife programs and whenever possible, will incorporate management techniques that will improve wildlife habitat, particularly in important habitat and management areas. Landowners with *Woodlands Improvement Act* (WIA) agreements will be made aware of the option of incorporating wildlife management into their agreements.

(vii) Forest management should be conducted on high potential aggregate areas only after consultation with mineral resources staff. Topics to be discussed include the resource potentials for both forestry and mineral aggregate, the probability of extraction occurring, and the possibilities for sequential use.

(viii) District supervisors will continue to be consulted during both the preparation and review of agreement forest and Crown land forest management plans. Consideration will be given to mineral resources, fish, wildlife, recreation and environmental concerns in these plans.

(ix) Forest management staff will notify staff in other programs of pending WIA agreements for lands where another program interest has been mapped.

(x) Forest management proposals in areas with planning (official plan and zoning) or development concerns will be discussed with district lands staff.

(xi) On hazard lands, forest management prescriptions will incorporate site protection objectives (erosion control, bank stabilization, etc.). Flood prone lands may be managed for forest production purposes.

d. External Co-ordination Guidelines

(i) The ministry's forest management activities will normally be restricted on lands designated for urban expansion, rural residential development, and other uses which would significantly reduce the forest production potential. Involvement in these areas will usually be limited to advisory services.

(ii) Any municipal planning policies which may affect forest management on private land, especially in areas designated environmentally sensitive, will be carefully reviewed before forestry activities are carried out.

(iii) While the Niagara Escarpment plan is being finalized the ministry will not undertake any forest management actions that would compromise

the intent of the proposed plan. Once the plan is approved, the ministry will ensure that all forest management programs are carried out in conformity with the plan.

(iv) Agreement forests will be managed with the continued involvement of the owners (counties, regional municipalities, and conservation authorities).

(v) Reforestation will not occur on prime agricultural land without prior consultation with the Ministry of Agriculture and Food. Existing woodlots in agricultural areas will be managed wherever possible.

(vi) The ministry will cooperate with conservation authorities in the provision of private land forestry services.

(vii) Forest management plans will be available for public review.

e. Plan Input and Review Guidelines

(i) The ministry will encourage official plan policies which recognize the value of high potential forest management areas and encourage the protection of these areas for future management.

(ii) The ministry will encourage the adoption of zoning by-laws which recognize forest management as a permitted use in all appropriate areas of the municipality.

(iii) The ministry will encourage the implementation of tree-cutting by-laws.

(iv) The ministry will:

- provide information on existing and potential forest resources;
- encourage the protection of existing high quality woodlots from incompatible development;
- encourage the use of forests for commercial, recreational, aesthetic and conservation values;
- encourage private landowners to participate in forestry advisory services and assistance programs; and
- encourage private developments to retain as much existing forest cover as possible.

B: mineral aggregate

1. OBJECTIVE

The objective for mineral aggregate production in southern Ontario is to meet anticipated future demand with minimal disturbance to natural and cultural resources and the social environment.

2. TARGET

The target for mineral aggregate production in the Cambridge District is to ensure a total cumulative supply of 608 million tonnes (670 million tons) for the period 1982 to 2000.

3. RESOURCE ANALYSIS

a. Target Discussion

The target of 608 million tonnes (670 million tons) is based upon an evaluation of anticipated demand throughout southern Ontario, and is apportioned to the Cambridge District according to the current share of production.

Anticipated total demand for mineral aggregates from the Cambridge District in the period 1982-2020 has been projected as approximately 1,570 million tonnes (1,730 million tons). The reason for long range projections is to ensure continued availability of this non-renewable resource for an extended period of time and to reflect planning time frames common to the industry (medium and large scale mining operations are planned on a 30-50 year cycle.)

Since transportation costs generally account for approximately fifty percent of the delivered price of aggregate, it is important to encourage a supply in close proximity to the market. To better understand the tightly knit relationship between supply and demand within the district, several major markets were defined (Kitchener-Waterloo, Cambridge, Guelph, Hamilton-Burlington and

Metropolitan Toronto). Projected demands for each market area were then assigned and tested.

b. The Resource Base

Glacial materials, laid down during the last continental glaciation, are important sources for mineral aggregates. Sand and gravel, which are used in a variety of ways (e.g., granular road base, asphalt, structural concrete and mortar), are extracted from extensive outwash deposits associated with former glacial meltwater systems, and from ice-contact deposits (kames, eskers) originating at or near former ice margins.

Sedimentary rocks deposited during Silurian, Ordovician and Devonian times (between 360 and 480 million years ago) are also important sources of mineral aggregate where they are near the surface. Once processed, they are utilized for crushed stone and other granular products (Amabel dolomite), for lime (Guelph Dolomite) which is used as a metallurgical flux in the manufacture of steel, for brick and ceramics (Queenstone shale) and for building stone (Whirlpool sandstone). These provincially significant resources provide the Cambridge District and adjacent areas such as Metropolitan Toronto, with a wide variety of relatively inexpensive structural products.

c. Identifying High Potential Resource Areas

To indicate where adequate supplies of aggregate may be available over extended periods, a number of high potential mineral resource areas have been identified (Map 3). Initially the resource base was compiled on a township basis through the ministry's Aggregate Resources Inventory Program (ARIP).

The selection of high potential mineral resource areas required the consideration of geologic, economic and planning factors.

(i) Geologic The identification of resources is based on the published and unpublished maps and reports prepared by various government agencies (primarily the Aggregate Resources Inventory Program). Generally, three factors are important:

- the extent of the deposit;
- quality—suitability of the resource for construction and road building purposes; and
- quantity of the resource based upon estimated deposit thickness.

(ii) Economic The following criteria help determine whether or not an area is economically viable:

- the distribution of potentially viable types of resources within the district;
- proximity of the resource to a suitable transportation corridor;
- overall demand for aggregates;
- proximity of the resource to a potential market;
- proximity of the resource to existing licenced properties; and
- minimum size of area required to sustain an extractive operation.

(iii) Planning All or parts of the following land areas were considered unavailable for extraction and were deleted:

- provincial parks, agreement forests, spawning areas, significant areas of natural and scientific interest, conservation areas and lands zoned for urban, commercial or industrial purposes and other lands containing obvious physical constraints which would preclude extraction.

Consideration of these factors reduced resource areas by 9 percent. Other existing uses such as single dwellings, and utility and transportation corridors reduced tonnage estimates of available resources but were not deleted on resource maps.

Other areas with ministry program concerns were identified but, while noted, did not reduce the area presently considered available for possible extraction. Special site-specific consideration and evaluation will be given where mineral resource development proposals may influence:

- coldwater streams important for the achievement of fisheries objectives;
- environmentally sensitive areas identified in official plans;
- hazard lands;
- other lands owned by conservation authorities;
- plantable areas identified on the forestry maps; and
- areas of lesser significance to the ministry's fish and wildlife and parks programs.

A number of mineral resource areas were identified where appropriate rehabilitation practices following extraction could provide for the achievement of other ministry program objectives (such as the provision of habitat for waterfowl).

High quality aggregate deposits still available following the consideration of other values are identified as high potential mineral resource areas on Map 3. Resource areas shown within the proposed Niagara Escarpment planning boundaries are identical to those identified in ministry submissions to the Niagara Escarpment Commission, with the exception of several sandstone areas. Sandstone resources were not specifically identified in original background material prepared by the ministry for the Niagara Escarpment Commission. Since then there has been renewed interest in building stone and the special needs of this industry have been recognized.

Map 3

CAMBRIDGE DISTRICT

MINERALS AND MINERAL AGGREGATE

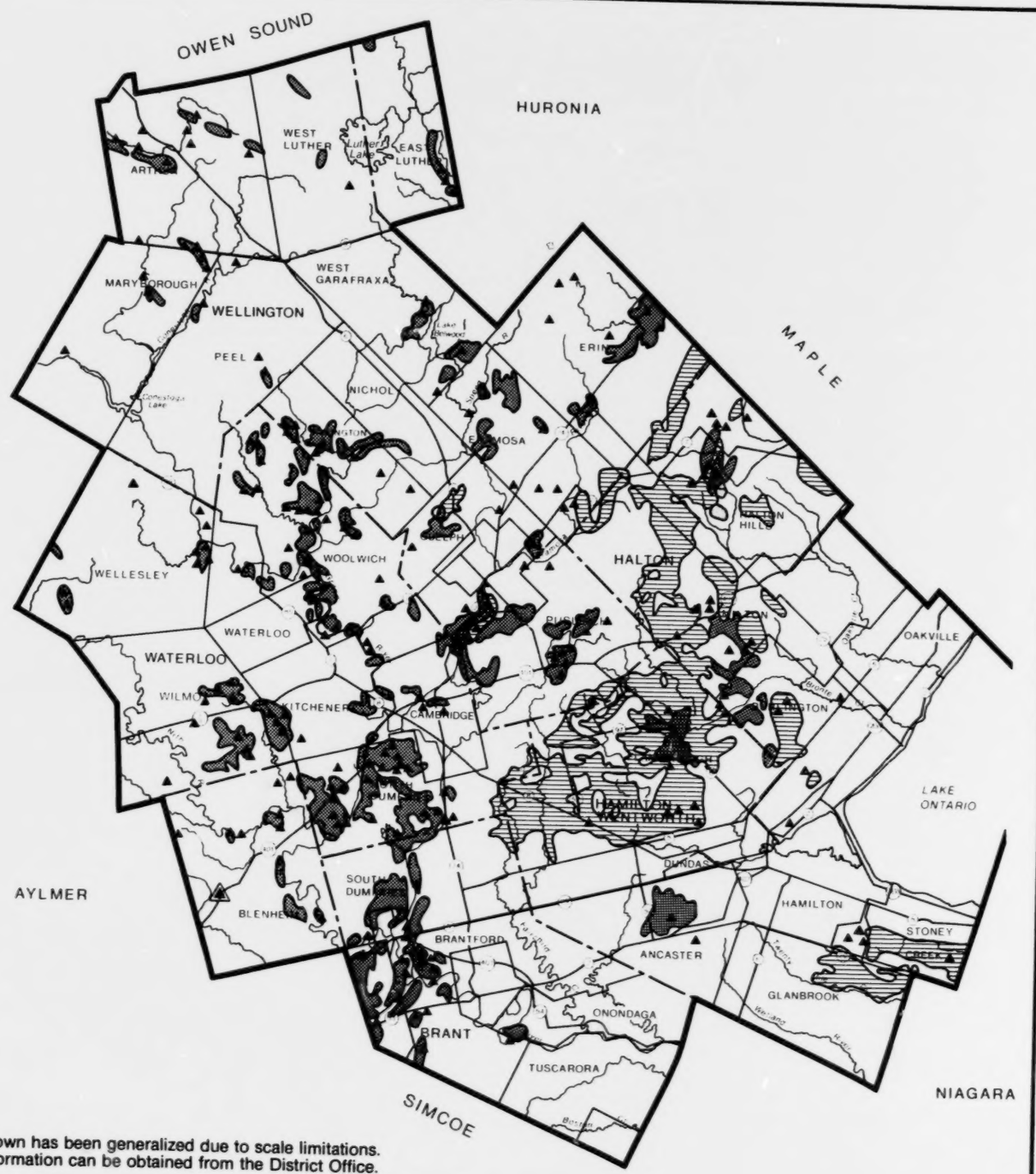
LEGEND

- Township Boundary
- County or Regional Boundary
- MNR District Boundary

Important Resource Areas

- High Potential Sand and Gravel
- High Potential Bedrock (Crushed Stone and Shale)
- High Potential Bedrock (Sandstone)
- Licenced Pits and Quarries
- Gypsum Mine

This map shows high potential mineral aggregate resources and currently licenced pits and quarries. In the high potential areas the Ministry will seek protection of adequate aggregate resources and will encourage land uses (such as agriculture and forestry) which do not preclude the option of future aggregate extraction. However, extraction can occur only where municipal official plan and zoning designations permit and the Ministry of Natural Resources has granted a licence.



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The information shown has been generalized due to scale limitations. Detailed current information can be obtained from the District Office.

1983

Based upon a recent detailed unpublished inventory, five high potential sandstone areas have been specifically noted on Map 3. These areas are predominantly within the Niagara Escarpment planning area boundaries.

The resources identified in the high potential mineral resource areas are in excess of the minimum required to meet the target (Table 5). The ministry is not seeking maintenance of the total potential of all of the mapped areas. Rather, it is within these general areas that the ministry will seek to maintain the potential of adequate resources in conjunction with other planning and resource priorities of municipalities.

However, as a means of providing for the future, it is often necessary to maintain the resource potential of more land than the target would suggest. This is because:

- the quality and quantity of the resource may not be tested or proven;
- private landowners may or may not wish to extract mineral resources;
- municipal land use decisions may preclude extraction; and
- demand may vary considerably from the projections because of changes in the economy.

Although medium and low potential mineral resource areas are not shown on Map 3, they have been identified on more detailed background information maps. These deposits may serve as sources of material for local use or may become important as regional sources if economic and social conditions change.

The following are other factors which must be considered in planning for mineral resources:

- there is a general lack of quality sand and gravel in the Hamilton-Wentworth region;
- sandstone should be recognized as a special resource for which additional geological assessment is required;
- the establishment of interim, sequential land use plans could significantly reduce the loss of valuable aggregate deposits resulting from rural and urban development (e.g., Kitchener and Guelph) and water control structures (e.g., Grand River basin);
- extraction affecting cold water streams, environmentally sensitive areas and floodplains requires special consideration and evaluation;
- a number of significant aggregate resource areas are located within the Niagara Escarpment planning area and are subject to special constraints. In this area the government has established a Pits and Quarries Restrictive Zone prohibiting new pits and quarries except in special cases. As well, the *Pits and Quarries Control Act* prohibits quarrying of the Amabel or Lockport formation within ninety metres of the Niagara Escarpment face; and
- in most cases extraction is an interim use and therefore the end use as established through the municipal planning process can be achieved through rehabilitation (i.e., an area can be rehabilitated to uses such as agriculture, recreation, housing and forestry).

TABLE 5 MINERAL AGGREGATE SUMMARY[1]

Commodity[2]	Targets/Projected Demand Million Tonnes (Tons) Target 1982-2000	Projected Demand 1982-2020	Estimated Resources in Licenced Pits & Quarries Million Tonnes (Tons) 1980		Estimated Total High Potential Resources[3][4] Million Tonnes (Tons)	
Sand and Gravel	320 (352)	927 (912)	475	(524)	2,763	(3,046)
Limestone and Dolomite	282 (311)	728 (802)	404	(445)	15,593[5]	(17,188)
Clay and Shale	5 (6)	14 (15)	10	(11)	1,039	(1,145)
Sandstone	1 (1)	1 (1)	nil		16	(18)
TOTAL	608 (670)	1569 (1730)	889	(980)	19,411	(21,397)

(1) Minor variations in table are due to rounding of data.
(2) A tentative separation of the targets into specific commodities was conducted to facilitate testing.
(3) Estimates are based upon reconnaissance surveys of the presence of suitable commodities for which extraction is believed to be currently feasible.
(4) Total aggregate resources in Cambridge District are estimated to be 108,000 million tonnes (120,000 million tons). From these, high potential mineral resource areas have been identified. Resource tonnages shown are those estimated available in high potential mineral resource areas.
(5) This estimate includes an estimated 2095 million tonnes (2310 million tons) of lime. Presently, licenced resources of stone suitable for lime manufacture are estimated to be sufficient to meet anticipated demand.

TABLE 6 AVERAGE ANNUAL MINERAL RESOURCE PRODUCTION
CAMBRIDGE DISTRICT 1976-1979

	Tonnes	Tons
Sand and gravel—licenced pits	10,210,700	(11,255,200)
—wayside pits	1,200,100	(1,322,800)
Shale	199,400	(219,800)
Crushed stone/limestone	10,811,500	(11,917,500)
Sandstone	9,200	(10,100)

d. Production

Average annual production of mineral aggregates and related products from 1976 to 1979 was approximately 22.4 million tonnes (24.7 million tons). Average production by commodity is shown in Table 6.

As of December, 1980 there were 232 licenced pits and quarries (total licenced acreage of 9,140 hectares or 22,574 acres). Approximately 50 wayside pit permits are issued each year in the district.

The estimated licenced resources of 890 million tonnes (980 million tons) could meet projected demand to the year 2000, assuming licenced resources remain available and their potential is fully utilized. While there is no question that resources in licenced properties can contribute significantly to the target, the ministry cannot guarantee the continued use or level of production from existing licenced sources and it is therefore necessary to protect additional resources.

The following observations regarding production and licenced resources should be noted:

- sand and gravel production in the Halton region is disproportionately small compared to crushed stone production because of the lack of quality sand and gravel deposits;
- in some areas, there appears to be a gradual shift in the proportion of the total production from sand and gravel to crushed stone. This can be expected to continue as sand and gravel sources become depleted;
- in Wellington County, two-thirds of licenced production occurs in Puslinch Township and areas outside of Wellington County serve as a major market;
- licenced properties producing aggregates for lime appear to have sufficient resources to maintain supply to 2020;
- licenced sandstone quarries contain only one tenth of the resource necessary to meet the sandstone target;
- licenced shale resources are adequate to meet anticipated demand to 2020;
- estimated licenced resources of sand, gravel, and crushed stone are sufficient to meet the 2000 target, however, licenced resources cannot be totally relied on to meet the target because some of these operations may cease to exist before utilizing all the resources;
- total production in the district has not changed significantly in the past five years; and
- changed economic conditions could significantly influence production trends.

e. Summary

Approximately 19,000 million tonnes (21,000 million tons) of high potential resources have been identified to indicate where the projected aggregate demand of 608 million tonnes (670 million tons) to the year 2000 could be met. Estimates of supply and demand are difficult to make and must be sensitive to changing conditions and new information. Changes in the economy, operating techniques, or transport economics will affect demand. Supply estimates will likely change as land use decisions are made and as more accurate information on resource volume and quality becomes available.

4. PROGRAM STRATEGY

a. Contribution to General Policies

Public Safety:

- work towards the elimination of hazards in abandoned pits and quarries by preparing and maintaining a list of abandoned sites; and
- in cooperation with the Ministry of Labour, make field inspections and determine appropriate action to secure and eliminate hazards associated with abandoned and active pits and quarries.

Environment:

- endeavour to achieve program objectives with minimal long term disturbance to the environment; and
- require mitigating measures and rehabilitation where environmental impacts from extraction operations are inevitable.

In most cases, rehabilitation can achieve the desired ends. Subject to certain constraints, such as the depth of the water table, a pit or quarry can be rehabilitated to almost any desired after use such as agriculture, recreation, forestry, residential, commercial or industrial.

The contribution to the integrated resource management policy is outlined in section c, Resource Management Integration Guidelines.

b. Important Resource Areas and Area Strategies

Mineral resources staff will attempt to:

- encourage protection of all legally existing pits and quarries from onsite or adjacent incompatible land uses;
- encourage land uses which allow future aggregate needs to be met within high potential resource areas; and
- seek efficient use of the resources and encourage a supply in close proximity to the market.

In keeping with the above, several high potential mineral resource areas among those shown on Map 3 are notably important resource areas. For sand and gravel resources, they are as follows:

Halton Region	Kame-outwash deposits near Limehouse
Hamilton-Wentworth Region	Kame-outwash deposits near Strabane, and kame deposits near Ancaster
Wellington County	Aberfoyle outwash deposit in Puslinch Twp., and outwash deposit near Puslinch Lake
Waterloo Region	Grand River Valley outwash in the City of Kitchener
Brant County	Outwash deposits near Paris and Brantford

For bedrock resources, they are as follows:

Halton Region	South of Acton (vicinity of Indusmin and Dufferin quarries), and Mount Nemo area
Hamilton-Wentworth Region	Vicinity of Canada Crushed Stone, and Stoney Creek and Glanbrook areas.
Wellington County	Lime resources along Speed River

The sandstone resource in the Halton Region requires special evaluation and recognition because of its significance as a heritage industry. Stone from Halton has been used in construction at Casa Loma and the University of Western Ontario. Because of the difficulties in locating and extracting suitable products and the small tonnages involved, this resource industry will be subject to additional resource inventories. The ministry will encourage the recognition of the special status of sandstone in relevant planning documents.

The potential of many of the important resource areas is not adequately maintained in existing official plans. Through participation in the municipal planning process, district staff will seek the recognition of important resource areas. Where possible, district mineral resource staff will initiate more detailed evaluation of these resources to verify their importance and determine suitable methods for their efficient and orderly utilization.

When commenting on land use planning matters, district staff will seek to identify and maintain the potential of sufficient aggregate to meet the target and to keep future options open. They will not seek designation of large areas for aggregate extraction. Rather, they will seek, where possible, designations such as agriculture and forestry which provide for ongoing uses without limiting future options in areas of high potential.

In addition, mineral resource staff will:

- identify favourable areas for industrial minerals through the preparation of resource inventories; and
- administer and enforce the *Pits and Quarries Control Act*, and encourage high operating and rehabilitation standards.

c. Resource Management Integration Guidelines

(i) Proposals for extraction activities, including applications and site plans, will be circulated to all ministry programs. Significant changes to these documents, which would alter the character of operations, will also be circulated to all programs.

(ii) In approving site plans, a buffer will normally be required between the extraction limit and any stream or lake. The buffer should provide protection to fish and wildlife habitat, if necessary. Fish and wildlife program staff will be consulted regarding the location and types of buffers, and other mitigative measures.

(iii) There will be no aggregate extraction in provincial parks and provincial wildlife management areas except for the on-site utilization of materials.

(iv) Pit or quarry applications in floodplains will receive detailed scrutiny to ensure that they will not significantly increase flooding hazards.

(v) Mineral resources staff will develop detailed guidelines in conjunction with other ministry staff and, where appropriate, other agencies, regarding extraction proposals potentially affecting streams and lakes, floodplains, wildlife habitat, and highly productive woodlots.

(vi) Proposals for extraction in areas of natural and scientific interest will be reviewed with parks staff.

(vii) Mineral resources staff will assist the parks program in the identification of earth science features of educational and scientific significance.

(viii) When reviewing applications for wayside pits, mineral resources staff will consult program strategy maps for possible conflicts with other program interests.

(ix) District staff will develop guidelines for tree planting and wildlife enhancement on specific sites identified as high potential mineral aggregate resource areas.

d. External Co-ordination Guidelines

(i) In processing pit and quarry applications, mineral resources staff will ensure that a site has proper official plan and zoning status before issuing a licence.

(ii) While the Niagara Escarpment plan is being finalized, the ministry will not undertake any actions that would compromise the intent of the proposed plan. Once the plan is approved, the ministry will ensure that extraction proposals are in conformity with the plan.

(iii) The ministry will work with other agencies to ensure that, prior to development, aggregate resources are utilized, where possible.

(iv) The ministry will provide municipalities, other government agencies and the public with basic resource data. The ministry will assist municipalities to define and protect mineral aggregate resource areas.

(v) Mineral resources staff will circulate pit and quarry applications to local and regional municipalities and counties, and as appropriate to conservation authorities, Ministry of the Environment, Ministry of Agriculture and Food, Ministry of Municipal Affairs and Housing, the Ministry of Labour and the Niagara Escarpment Commission.

(vi) When the ministry is contacted by the Ministry of Transportation and Communications with regard to the preparation of aggregate sources lists, other ministry program staff will be consulted to ensure their concerns are considered.

(vii) The Ministry of Natural Resources will encourage the concept of extraction as an interim land use activity. Toward this end the ministry will:

- encourage operators of extractive sites to make the most effective use of the land resource;
- encourage sequential land use and progressive and ultimate rehabilitation with the active extraction area limited to a minimum practical size;
- encourage operation of the site in a manner as compatible as possible with surrounding land uses and activities; and
- encourage all depleted extractive sites, including wayside pits and quarries, to be returned to a condition suitable for an acceptable after-use and compatible with adjacent land uses.

e. Plan Input and Review Guidelines

(i) Official plans should:

- include policies that recognize existing licenced pits and quarries and protect them from incompatible land uses;
- identify and protect from land uses which are incompatible with possible future extraction as much of the mineral aggregate resources occurring in the municipality as is realistically possible in the context of the municipality's other necessary land use planning objectives, and in recognition of the continuing local, regional and provincial need for mineral aggregates.
- provide a clear and reasonable mechanism to permit the establishment or expansion of pits and quarries;
- permit wayside pits and quarries without requiring an amendment to the plan or zoning by-law, except the plan may require a rezoning for a wayside pit or quarry in areas of existing development or particular environmental sensitivity which are designated in the plan; and
- include policies to encourage rehabilitation to an after-use compatible with the long term uses permitted by the plan.

(ii) Zoning by-laws should include the following:

- definitions for the terms pit, quarry, wayside pit and wayside quarry;
- a distinctive extractive zoning category such that pits or quarries are permitted activities with no uses or other activities permitted that would be incompatible with mineral aggregate operations;
- provisions that permitted uses in the extractive zone include accessory uses such as stockpiling, sorting and washing operations; compatible uses such as agriculture and forestry; and ancillary uses such as asphalt plants (which can be limited to specific properties by the local municipality); and
- a clause that permits wayside pits and quarries in all zoning categories, except in zones which are established to recognize existing development or areas of particular environmental sensitivity, where wayside pits and quarries may be prohibited.

(iii) The ministry will provide comments to planning review and approval agencies on

proposed planning actions that may have implications for mineral aggregate resource development. Comments will relate to the compliance of these actions with mineral aggregate resource policy and to wise mineral aggregate resource management.

(iv) The ministry will provide information on the location of abandoned pits and quarries to promote public safety.

C: minerals and fossil fuels

1. OBJECTIVE

The objective for southern Ontario is to provide for a strengthening of the contribution of these resources to provincial economic development and energy production.

2. TARGET

The target for fossil fuels in the Cambridge District is to encourage as much exploration and production as possible in order to maximize the contribution to provincial energy needs.

Specific mining production targets cannot be established because of difficulties in predicting market trends and assessing resource potential, and because actual production is a responsibility of the private sector.

3. RESOURCE ANALYSIS

Gypsum mines (Salina formation) in the south-western part of the district yield material which is used by the building industry in the form of plaster, lath or wallboard (Map 3). A recently opened mine near Drumbo has a rated production of 180,000 tonnes (198,000 tons) per year. As well, mines near Caledonia and Hagersville (Niagara District) extend underground into Tuscarora Township (Cambridge District).

Oil and gas, trapped in the bedrock, have been recovered for many years in Brantford and Oxford Counties. Production from oil and gas wells, although generally declining, amounted to 8,450,700 cubic metres of natural gas and 3,430 cubic metres of oil in 1980.

Since the extraction of gypsum, oil and gas has a relatively insignificant influence on land use decisions, the identification of potential resource areas was not carried out.

4. PROGRAM STRATEGY

a. Contribution to General Policies

Public Safety:

- in co-operation with the Ministry of Labour, make field inspections and determine appropriate action to secure and eliminate hazards associated with abandoned open pit mines and mine shafts; and
- keep up-to-date maps showing the location of abandoned oil and gas wells. These maps will be consulted when development proposals are reviewed.

Environment:

- endeavour to achieve program objectives with minimal long term disturbance to the environment.

Energy:

- assist in the identification of areas suitable for oil, gas or peat production.

The contribution to the integrated resource management policy is outlined in section c, Resource Management Integration Guidelines.

b. Important Resource Areas

To assist in achieving the objective for Minerals and Fossil Fuels, mineral resources staff will:

- identify favourable geological areas and expand the geoscience data base through collection, storage and dissemination of information; and
- encourage exploration in known oil and gas bearing deposits and in peat deposits.

c. Resource Management Integration Guidelines
Mineral resources staff will assist the parks program in the identification of earth science features of educational and scientific interest.

d. Plan Input and Review Guidelines
(i) The ministry will provide information on the location of gas and oil wells to promote public safety.

(ii) The ministry will encourage municipalities to support mineral exploration and extraction.

D: fisheries

1. OBJECTIVES

The objective for fisheries management in southern Ontario is to provide opportunities for recreation and economic benefits consistent with the maintenance of healthy fish communities.

More specific objectives are:
Sport Fishing
- to meet demand for sport fishing within the limits of a wisely managed and rehabilitated resource;

Commercial Fishing
- to maintain a viable industry;

Bait Fishing
- to maintain current bait fish production; and

Provincially Rare and Endangered Species
- to prevent the extinction of any native fish species.

2. TARGETS

The targets in Cambridge are:
Sport Fishing
- to provide 988,000 recreation opportunities by the year 2000 in the Cambridge District;

Bait Fishing
- to provide 180,000 dozen bait fish annually from natural sources in the Cambridge District; and

Provincially Rare and Endangered Species
- to ensure no native fish species becomes extinct.

There is no target for commercial fish production in the Cambridge District.

3. RESOURCE ANALYSIS

Both warm and cold water fish species provide angling opportunities in the district. Warm water fish include largemouth and smallmouth bass, pike and pickerel, which are found mainly in the Grand River and its tributaries and associated water bodies. The watershed includes the Nith, Speed, Eramosa and Conestogo Rivers, Luther, Belwood and Conestogo Reservoirs, and Puslinch Lake.

The cold water system is less extensive, but it does support populations of rainbow, brown and speckled trout. Coho and chinook salmon, stocked by the ministry, provide angling opportunities in Bronte and Oakville Creeks and Lake Ontario.

Angling for coho and chinook salmon has become popular in Lake Ontario and its major tributaries. Sport fishing on the open lake is a major fall activity. Access to the lake, which includes boat launching, docking, and parking facilities is limited at present. The amount of shoreline available to those who wish to fish from shore is also quite limited.

The 1980 Provincial Angler Survey estimates current fishing pressure at 967,000 occasions exerted by 94,000 anglers. The most frequently caught species included smelt, suckers, catfish, brook trout, smallmouth bass, sunfish and rainbow trout. A total of 2,769,000 fish were caught and 1,417,000 kept. Approximately 1.5 fish were kept for every occasion of angling activity.

Approximately 247,000 kilograms (543,400 pounds) of fish will be required to meet the target. This is an estimate of the amount of natural fish production that can be harvested each year while still maintaining stable stocks. It does not include the amount of fish produced as a result of stocking efforts. The best estimate of weight of fish harvested per occasion is 0.25 kilograms (.55 pounds). This implies a current harvest of 241,800 kilograms (531,900 pounds) and includes the weight of fish caught which were of stocking origin (Table 7). Target achievement would require a slight increase in natural production and maintenance of the stocking program to meet increased demand.

The bait fish resource is under considerable pressure from the harvesters. No new harvest licences are being issued until more is known about bait fish productivity and yields which can be harvested annually while still maintaining stable stocks.

No commercial harvest occurs in the Cambridge District portion of Lake Ontario at present. Commercial harvest may be feasible in the future depending on reduced contaminant levels, sufficient commercial stocks and a favourable market to support a limited industry. The allocation of the allowable harvest of the fisheries resource among user groups will be based on an objective, careful examination of all relevant biological, social and economic factors to ensure that the optimum benefits accrue to the residents of Ontario. To further protect the fisheries resources in Lake Ontario, the ministry is working with American jurisdictions to ensure that balanced harvests of fish stocks are assured and management strategies are compatible.

To achieve the targets, natural habitat must be protected, and water quality must not be degraded. Fish populations are stressed by chemicals in the water and by alterations to natural watercourses caused by dams, land drainage, dredging and filling. Spawning beds are susceptible to heavy siltation in many streams. Excessive nutrient loads encourage weed growth and lower oxygen levels. All of these changes result directly or indirectly from land disturbance.

TABLE 7 SPORT FISHERIES SUMMARY

	1980 Survey	2000 Target
Sport Fish Harvest — kilograms (pounds)	241,800 (531,900)	—
No. of Occasions	967,000	988,000

4. PROGRAM STRATEGY

a. Contribution to General Policies

Public Safety:

- assist in the monitoring of contaminant levels in fish.

Environment:

- manage fish on the basis of aquatic communities rather than single species;
- identify and protect the habitat of rare or endangered fish species; and
- prepare and implement class and individual environmental assessments where required.

The contribution to the integrated resource management policy is outlined in section c, Resource Management Integration Guidelines.

b. Important Resource Areas and Area Strategies

To achieve the targets, it will be necessary to maintain and protect fish habitat in several key watersheds. The following have been identified on Map 4 as important resource areas:

Watersheds with Cold Water Species (rainbow, brook and brown trout)
- —Bronte Creek
- —Horner (Whitemans) Creek
- —Galt (Aberfoyle) Creek
- —Spencer Creek
- —Eramosa River
- —Credit River
- —Saugeen River

Watersheds with Warm Water Species (bass, walleye, pike)
- —Grand River
- —Speed River
- —Nith River
- —Conestogo River

Lake Ontario (chinook and coho salmon, rainbow trout)
- —mouths and lower reaches of Bronte and Oakville Creeks.

Ultimately the angler demand for cold water fish will exceed the natural production capacity. To mitigate this situation, cold water fisheries resources have to be protected, and where necessary, rehabilitated. In this regard, all headwaters

supporting cold water species in the above watersheds will be considered as important areas for protection. Flow depletion and temperature changes in these areas should be minimized to protect sensitive trout populations. Wetlands in these areas should be maintained.

Upper reaches of streams in Arthur, Erin, Flamborough, and Puslinch Townships deserve particular attention. They are high quality cold, clear streams fed by springs. Protecting these spring sources is vital to maintaining the high quality condition. It is these headwater streams which contain much of the district's trout population.

There is considerable opportunity for warm water fishing presently unexploited in the Grand River watershed, both in reservoirs (e.g., Belwood Lake, Conestogo Lake), and the natural watercourses. Reservoirs in other watersheds with potential for providing more opportunities are found in Valens, Mountsberg and Binbrook Conservation Areas. Increased demand for angling will be directed towards these areas.

Most reservoirs depend on stocking programs of conservation authorities to provide angling opportunities (e.g., Burns, Kelso, Christie, Fifty Point, Rockwood and Elora Conservation Areas). A few municipal ponds are stocked locally by sportsmens' clubs and the municipality. The ministry will continue to rely on conservation authorities and sportsmens' clubs to satisfy the demand in these areas.

The Lake Ontario salmon stocking program will be continued by the ministry until it can be replaced with an equivalent fishery established by naturally reproducing salmonid species which are native to Ontario.

c. Resource Management Integration Guidelines

(i) In administering approvals under the *Lakes and Rivers Improvement Act, Fisheries Act, Navigable Waters Protection Act* and similar legislation, the ministry will seek to protect critical fisheries habitat such as spawning and nursery areas, in marshes, shoals and cold water streams.

(ii) All fisheries management plans will be circulated to the other district programs for review and comment.

(iii) Fisheries management in provincial parks will conform to master plans and provincial parks planning and management policies. Fisheries management in candidate parks will occur within the framework of approved management guidelines.

(iv) Fisheries management proposals for significant areas of natural and scientific interest will be reviewed with parks staff.

(v) Fisheries staff will identify areas where tree planting should be carried out to protect or enhance stream habitat.

(vi) Wherever practical, fisheries management areas and other fisheries projects will incorporate other resource management benefits.

d. External Co-ordination Guidelines

(i) Official plan and zoning policies will be reviewed by the ministry before decisions are made on fisheries habitat management.

(ii) While the Niagara Escarpment plan is being finalized, the ministry will not undertake any actions that would compromise the intent of the proposed plan. Once the plan is approved, the ministry will ensure that all management programs are carried out in conformity with the plan.

(iii) Municipalities will be encouraged to provide fishing access points along the Great Lakes shoreline and within urban areas along streams.

(iv) The ministry will work with conservation authorities and other public agencies to encourage and assist fisheries management on their properties. The ministry will also seek to carry out fishery management programs on private lands in cooperation with landowners, conservation authorities and private groups.

(v) Conservation authorities will be encouraged to work closely with the district office in the development of all water management plans.

(vi) Conservation authorities will be encouraged to review and comment on draft fisheries management plans prepared by the district.

(vii) District fisheries staff will work closely with local conservation authorities in fisheries management planning to ensure that fisheries and water management are co-ordinated.

(viii) Fisheries staff will work with the Ministry of the Environment to ensure that the protection of the groundwater regime receives special attention in the important watersheds.

(ix) District staff will work with the Ministry of Agriculture and Food and landowners to minimize conflicts between fisheries concerns and agricultural interests. For example, where streams with significant sports fisheries are also identified as municipal drains under the *Drainage Act*, the ministry will consult with the Ministry of Agriculture and Food regarding any fisheries management proposals.

Map 4

CAMBRIDGE DISTRICT

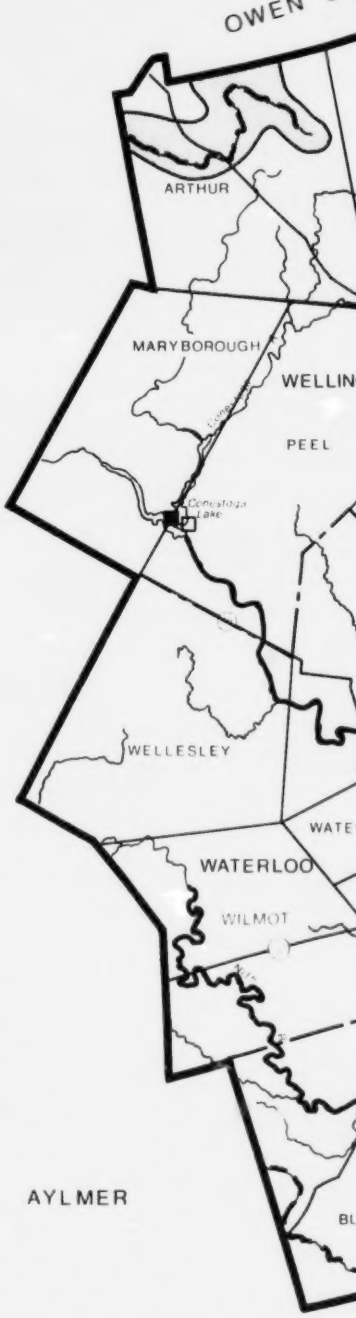
FISHERIES

LEGEND

- Township Boundary
- County or Regional Boundary
- MNR District Boundary

Important Fisheries

- Cold Water Stream
- Warm Water Stream
- Cold and Warm Water Lakes
- Cold Water Fisheries (Ponds and Reservoirs)
- Warm Water Fisheries (Ponds and Reservoirs)
- Headwater Area



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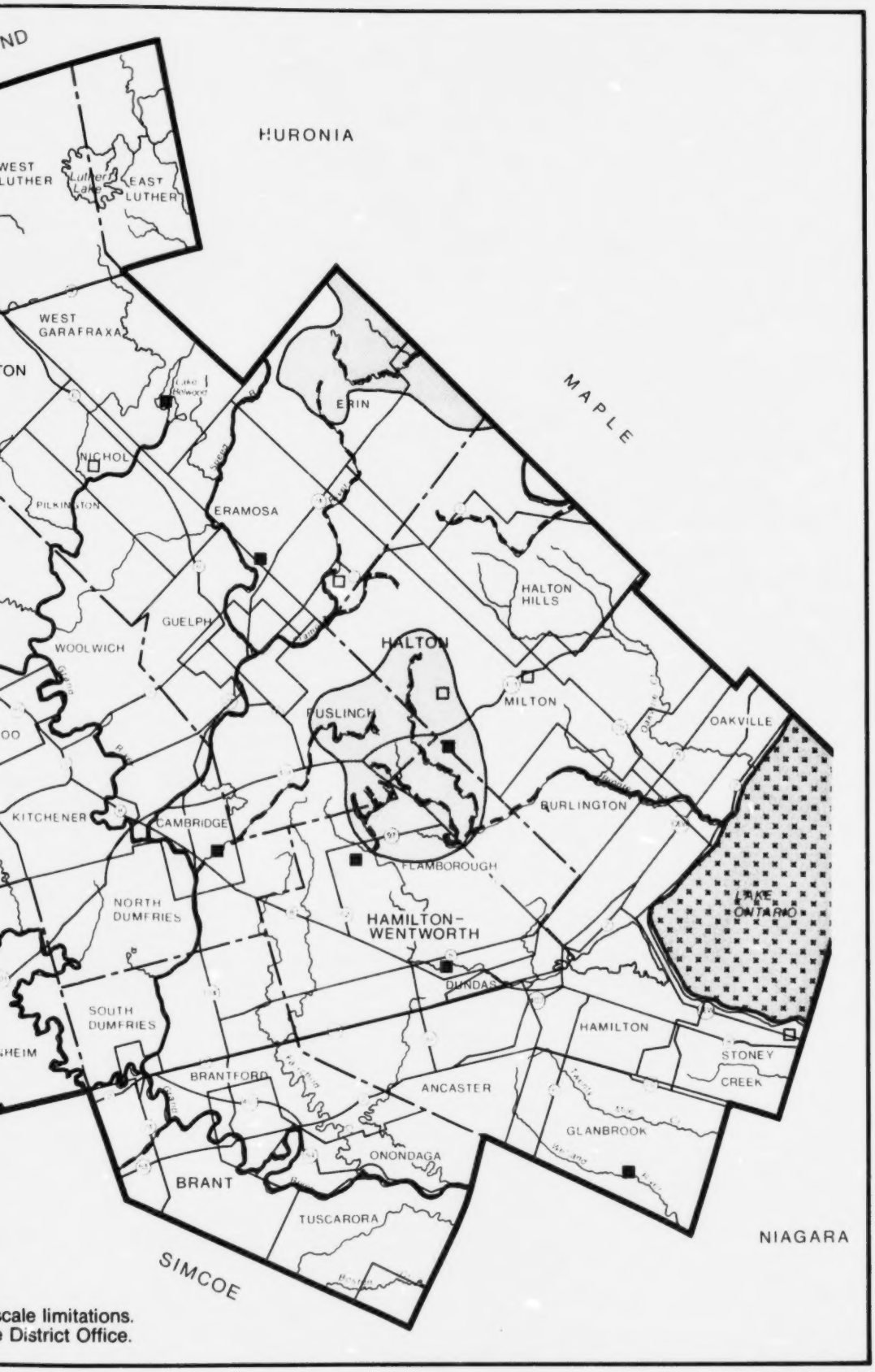

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e. Plan Input and Review Guidelines

(i) The ministry will encourage the adoption of official plan policies which identify important fish habitat and protect it from incompatible development. Policies should also ensure that any land use activities occurring within or adjacent to fish habitat are carried out in a manner that keeps adverse effects to a minimum.

(ii) The ministry will encourage the adoption of zoning by-laws which:

- permit fisheries management in or adjacent to all lakes or rivers; and
- ensure activities adjacent to fishery resource areas are compatible with fish habitat management.

(iii) The ministry will provide information on existing and potential fisheries habitat and the potential impact of development on fisheries.

(iv) Development proposals should:

- incorporate design features which remove or minimize any adverse effects on the fish habitat; and
- maintain or provide access to high quality sport, commercial or bait fish resource areas.

(v) The ministry will encourage:

- the inclusion of water access points in shoreline development plans; and
- land use management policies which recognize the potential of recreational and commercial fisheries.

(vi) Specific developments that require waterbody alterations such as dams, diversions, or filling should be accompanied by detailed plans under the *Lakes and Rivers Improvement Act.*

E: wildlife

1. OBJECTIVES

The objective for wildlife management in southern Ontario is to provide opportunities for social and economic benefits from wildlife recreation and fur harvest consistent with the maintenance of healthy wildlife populations.

More specific objectives are:

Hunting

- to provide opportunities sufficient to maintain the present rate of participation and quality of hunting by residents; and
- to maintain the contribution to the economy of hunting by non-residents;

Trapping

- to sustain the maximum yield from wild furbearer populations while sustaining the present diversity of fur types; and

Other Uses

- to prevent additional species from becoming endangered or threatened;
- to improve the status of existing endangered or threatened species with the objective of removing them from the endangered species list; and
- to maintain populations of all wildlife species (both non-game and game) at levels sufficient to:
  - provide opportunities for recreational enjoyment, aesthetic appreciation, scientific investigation, and educational uses,
  - provide benefits from tourism,
  - ensure environmental quality and ecosystem integrity, and
  - ensure the safety of the public.

2. TARGETS

The targets in the Cambridge District are:

Hunting

- to provide by the year 2000, 170,200 opportunities of hunting recreation per annum, including 19,700 opportunities of big game hunting, 120,700 opportunities of small game hunting, and 29,800 opportunities of waterfowl hunting;

Trapping

- to manage populations of wild fur-bearers such that an average harvest of 33,000 pelts by the year 2000 can be achieved while maintaining

the present diversity of fur species; and

Other Uses

- to ensure no native wildlife species becomes extinct.

A target for wildlife viewing has not been included due to the difficulty of measuring this activity and of assessing the influence of management actions.

Targets will be defined through ongoing policy development and will be incorporated into the *Land Use Guidelines* at an appropriate opportunity.

3. RESOURCE ANALYSIS

Habitat conditions in the district are changing as the amount of urban area increases. Nevertheless some species of wildlife have adapted well. Canada geese and white-tailed deer are two species whose populations have increased. A variety of common waterfowl species nest throughout the district. Goldeneye, old squaw, greater and lesser scaup, canvasback, shoveler, and snow geese use wetlands in the district as stop-over and nesting areas. At the Luther Marsh Wildlife Management Area some of the rarer species are known to nest as well.

The most common furbearers are beaver, muskrat, mink, raccoon, fox and coyote. Some 450 licenced trappers in the district harvest pelts valued at approximately half a million dollars annually. Small game species include pheasant, woodcock, ruffed grouse, fox, rabbit, hare, squirrel and coyote. Non-game species include more than 200 species of birds, 40 species of mammals, and 40 species of reptiles and amphibians. Land in the vicinity of the Niagara Escarpment provides one of the few breeding places in Ontario of an endangered species, the West Virginia white butterfly.

Scientifically derived estimates of game populations in the district are not presently available but efforts are underway to build a long term record of population statistics.

Recent hunter surveys provide an indication of wildlife related recreation (Table 8). There has been an observed decline in hunting participation in recent years. The hunting targets are based on the assumption that current hunting participation rates will stabilize, and that further increases will be proportional to population growth. Due to the lack of reliable data, no non-consumptive use statistics have been compiled.

Achievement of the waterfowl hunting targets appears to be obtainable. For small game hunting, social constraints could make the target unattainable. The deer targets can probably only be achieved if there are significant increases in participation and if controlled hunts are continued.

Achievement of the wildlife targets will depend on how successful attempts are to protect critical habitat areas. Improvement of existing habitat conditions will require changes in existing land use practices. Also required is an increased willingness by individual landowners to allow access to wildlife. This applies to the provision of non-consumptive as well as hunting and trapping opportunities.

Achieving and maintaining the fur target will be dependent on access to private property, maintenance of habitat, public acceptance of trapping and the price and demand for fur. The present fur harvest of 31,000 pelts annually is slightly less than the target of 33,000 pelts.

Protecting endangered, threatened or rare wildlife species will require close monitoring of populations. If a particular species appears to be threatened, action will be taken to protect its habitat and to apply specific measures designed for safeguarding its future.

TABLE 8 WILDLIFE HUNTING OPPORTUNITIES

	Hunting Opportunities	
	Current (1981)	Target (2000)
Waterfowl	20,800	29,800/yr.
Small Game	84,500	120,700/yr.
Big Game (Deer)	13,800	19,700/yr.
Total	119,100	170,200/yr.

4. PROGRAM STRATEGY

a. Contribution to General Policies

Public Safety:

- promote the hunter education program;
- enforce hunting regulations; and
- participate in rabies suppression programs.

Environment:

- identify and protect the habitat of rare or endangered wildlife species;
- encourage consideration of all wetland values in municipal planning and the planning of other agencies; and
- prepare and implement class and individual environmental assessments as required.

The contribution to the integrated resource management policy is outlined in section c, Resource Management Integration Guidelines.

b. Important Resource Areas and Area Stategies

Important wildlife areas have been identified and are illustrated on Map 5. Many of these areas have already been identified as Environmentally Sensitive Areas in official plans. Attributes which make them important to ministry programs include the presence of wetland habitats, deer wintering areas, diverse plant and animal species, and large contiguous areas providing travel corridors for wildlife.

Agreement forests, Crown land and certain lands owned by conservation authorities, (e.g., Luther Marsh, Beverly Swamp, Valens, Binbrook) will become increasingly important in satisfying the demand for wildlife-related recreation if restrictions on the use of private land increase.

The important resource areas for wildlife recreation are as follows:

Brant County
- B1. Oakland Swamp
- B2. Whitemans Creek Valley
- B3. Grand River Valley
- B4. Pinehurst Lake complex
- B5. Brant County Forest

Regional Municipality of Halton
- H1. Lake Medad and Valley
- H2. Bronte Creek Valley
- H3. Sixteen Mile Creek Valley
- H4. Crawford Lake-Rattlesnake Point
- H5. Guelph Junction Woods
- H6. Halton Forest
- H7. Blue Springs deer area
- H8. Credit River Valley

Regional Municipality of Hamilton-Wentworth
- HW1. Beverly Swamp
- HW2. Fletcher Creek Swamp
- HW3. Spencer Creek Swamp
- HW4. Hayesland Swamp
- HW5. Royal Botanical Gardens and Cootes Paradise
- HW6. Dundas Valley

Oxford County
- O1. Black Swamp
- O2. Drumbo Swamp
- O3. Gobles Woods
- O4. Benwall Swamp

Regional Municipality of Waterloo
- WA1. North Woolwich Swamp
- WA2. Sunfish Lake
- WA3. Phillipsburg Swamp
- WA4. Schaefer's Woods
- WA5. Kossuth Bog
- WA6. Roseville Swamp
- WA7. Bannister-Wrigley Lake complex
- WA8. Barries Lake
- WA9. Cranberry Bog
- WA10. Deer concentration areas near:

Crosshill	Phillipsburg
Bamberg	Haysville
Zubers Corners	Bloomingdale

Wellington County
- W1. Galt Creek Swamp
- W2. Moffat Marsh
- W3. Aberfoyle Woods
- W4. Eramosa River Valley
- W5. Luther Marsh
- W6. West Montrose Valley
- W7. Deer concentration areas near:

Conestogo Lake	Iverhaugh
Belwood	Fergus
Speedside	Mimosa
Hillsburg	Binkham
Brucedale	Ballinafad

To provide wildlife recreation opportunities, district staff will:

- encourage the perpetuation of diverse quality habitats of both game and non-game species; and
- encourage the preservation of wetlands.

The following areas are generally the largest and most diverse natural areas in the district:

- Luther Marsh
- Valens Conservation Area
- Beverly Swamp
- Halton Forest and Hilton Falls Conservation Area
- Christie and Crooks Hollow Conservation Areas.

Most of these areas are managed jointly with local conservation authorities. Since they are publicly owned, access to a variety of wildlife oriented recreational opportunities is possible. For this reason, they will continue to be important areas for achieving wildlife recreation targets.

c. Resource Management Integration Guidelines

(i) Wildlife staff will work to develop criteria and management guidelines for forest management prescriptions that will enhance wildlife habitat.

(ii) District wildlife staff will prepare management plans for all wildlife management and agreement areas, and will circulate these to staff in other programs for review.

(iii) Significant wildlife management activities which will take place on an area where another program has mapped an interest, will be circulated to the affected program(s) for review.

(iv) Any wildlife management in provincial parks will conform to master plans, and provincial parks planning and management policies. Any wildlife management in candidate parks will occur within the framework of approved management guidelines.

(v) Wildlife management proposals for significant areas of natural and scientific interest will be reviewed with parks staff.

(vi) Proposals for wildlife management on lands under interim property management will be circulated to district lands staff for review.

d. External Co-ordination Guidelines

(i) Official plan and zoning policies will be reviewed before decisions are made on wildlife habitat management.

(ii) While the Niagara Escarpment plan is being finalized, the ministry will not undertake any actions that would compromise the intent of the proposed plan. Once the plan is approved, the ministry will ensure that all wildlife management programs are carried out in conformity with the plan.

(iii) The ministry will offer assistance to municipalities in determining appropriate areas for application of "no discharge of firearms" by-laws.

(iv) The ministry will work cooperatively with government agencies at the federal, provincial and municipal levels, and with private landowners, developers and other members of the private sector to achieve the protection of wildlife resources (both game and non-game). Specific approaches will include:

- working with conservation authorities and other public agencies to encourage and assist wildlife management on their properties;
- encouraging greater non-government participation in the identification and management of wildlife habitat;
- providing habitat management consulting services to landowners; and
- entering into agreements with property owners to ensure habitat on private land is protected and properly managed.

(v) The ministry will work with other agencies, groups and individuals on programs that will encourage landowners to permit access to wildlife resources on private lands.

(vi) The ministry will encourage greater non-government participation in the identification and management of endangered, threatened or rare species.

(vii) The ministry will provide extension services which promote an understanding of the value of wildlife resources (both game and non-game), and which enhance social benefits and tourism.

e. Plan Input and Review Guidelines

(i) The ministry will encourage the adoption of official plan policies which place wildlife management areas, wetlands, and other important wildlife habitat in a land use category that only permits uses compatible with wildlife production.

(ii) The ministry will encourage the adoption of by-laws that:

- permit wildlife management, hunting and trapping in all appropriate areas; and
- protect wildlife habitat by allowing only those uses which are compatible with wildlife production.

(iii) The ministry will review development proposals and encourage:

- the incorporation of design features which remove or minimize adverse effects on habitat critical to target achievement;
- the maintenance or provision of access to high quality wildlife oriented recreation areas essential to the fulfillment of program targets; and
- compatibility with the production and harvest of commercial fur.

(iv) The ministry will provide information on existing wildlife habitat.

(v) Specific developments that require waterbody alterations such as diversions or filling, should be accompanied by detailed plans for review under the *Lakes and Rivers Improvement Act.*

Map 5

CAMBRIDGE DISTRICT

WILDLIFE

LEGEND

- Township Boundary
- County or Regional Boundary
- MNR District Boundary

Important Resource Areas

- Wildlife Habitat
- Wildlife Management Area

N

0 5 25 Kilometres

0 4 16 Miles

The information shown has been generalized due to scale limitations.
Detailed current information can be obtained from the District Office.

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F: provincial parks

1. OBJECTIVES

The objectives for the provincial parks system in southern Ontario are:

Protection

- to protect provincially significant elements of the natural and cultural landscape of Ontario;

Heritage Appreciation

- to provide opportunities for exploration and appreciation of the outdoor natural and cultural heritage of Ontario;

Recreation

- to provide provincial park outdoor recreation opportunities ranging from high intensity day use to low intensity wilderness experiences; and

Tourism

- to provide Ontario's residents and out-of-province visitors with opportunities to discover and experience the distinctive regions of the province.

2. TARGETS

The targets for the provincial parks system in the Cambridge District are:

Protection

- Earth Science to protect provincially significant, representative and special earth science features in the Cambridge District which contribute to the representation of the thirty-five geological environments of southern Ontario;
- Life Science to protect provincially significant life science features in the Cambridge District which contribute to the representation of vegetation site types in the twenty-six site districts in southern Ontario;
- Historical Resources to protect provincially significant landscape-related prehistorical and historical resources which contribute to representation of the fourteen themes of southern Ontario's history;

Heritage Appreciation

- to provide opportunities for exploration and appreciation of the outdoor natural and cultural heritage of the Cambridge District; and

Recreation and Tourism

- to provide annually, by the year 2000, the following recreation opportunities for residents and visitors to provincial parks in the Cambridge District:

Day Use

322,200 swimming opportunities
384,000 picnicking opportunities

Extended Use

35,500 camping opportunities.

3. RESOURCE ANALYSIS

a. Protection

The Ministry of Natural Resources has protection targets related to earth and life science features and historical resources. To assist in achieving these targets, the ministry has identified areas of natural and scientific interest, which are areas of land and water containing natural landscapes or features that have values related to protection, natural heritage appreciation, scientific study or education.

Areas of natural and scientific interest vary in level of significance. The most significant may contribute to the achievement of the ministry's protection objective. Areas of natural and scientific interest encourage the protection of additional areas not regulated as provincial parks and provide a focus for both the public and private sectors to contribute to the protection of Ontario's natural heritage.

In the Cambridge District, 29 significant earth science and 24 significant life science areas have been identified.

The principle of representation for earth science features is to protect examples of features which illustrate Ontario's earth science history. Earth science features are physical elements of the natural landscape created by the earth's processes. They can be broadly categorized into rock strata, fossil assemblages, and landforms.

The selection of earth science areas of natural and scientific interest has focused on representing features that best illustrate various themes. Table

9 lists the areas which have been identified to represent six earth science themes.

Life science representation is concerned with the protection of areas which characterize distinctive environments. In the Cambridge District, seven distinct environments, called site districts, can be identified (Map 6). In each of these site districts, a number of areas containing relatively undisturbed indigenous biotic communities and their associated flora and fauna have been identified for representation. Table 10 lists the areas.

Tables 9 and 10 list the 53 significant earth and life science features. One is located within Bronte Creek Provincial Park, 13 are located on public land, and the remaining 39 are associated with land which is partially or entirely under private ownership. Target achievement is potentially more feasible on Crown and public land holdings. Nevertheless, natural areas on private land can be protected through the development of "other than park" mechanisms (e.g., private landowner agreements).

TABLE 9 SIGNIFICANT AREAS OF NATURAL AND SCIENTIFIC INTEREST EARTH SCIENCE

Theme	Representation In		
	Provincial Park	Candidate Park	Other Sites (Crown, public and private lands)
Paleozoic Theme (Silurian)	—	—	1. Guelph Correctional Centre quarry 2. Hwy #7 road cut 3. Everton area 4. Rockwood Conservation Area 5. Elora Quarry
Raised Beaches	—	—	6. Westover
Esker	—	—	7. Riverstown Esker twins 8. Eramosa Esker channel 9. Freelton Esker
Wisconsinian	—	—	10. Conestogo Dam cut 11. Homer Watson Park 29. Halton till
Ontario Island	—	—	12. Galt Moraine 13. Paris, Galt and Moffat Moraines 14. Arkell Meltwater Channel 15. Guelph Drumlin Field 16. Hillsburgh Meltwater Channel 17. Drayton area 18. Rothsay Drumlins 19. Pinehurst Lake Kettles 20. Ingersoll Moraine
Niagara Escarpment	—	—	21. Dundas Valley 22. Devil's Punch Bowl 23. Old Nelson Quarry 24. Grindstone Creek 25. King City Quarry 26. Lowville Re-entrant Valley 27. Old Dundas Quarry 28. Spencer Creek

A preliminary analysis of historical resources suggests that despite the lack of inventory activity in this area, there is potential for representation of the landscape-related cultural resource heritage at Bronte Creek Provincial Park. Many conservation authority lands in the district also have potential for protecting heritage resources. Further inventory is required to identify historical resources for protection.

b. Heritage Appreciation

Establishing natural environment and waterway classes of provincial parks in each of the site districts of southern Ontario is the principal means of representing natural and cultural landscapes. The identification of areas of natural and scientific interest also contributes to the heritage appreciation objective.

TABLE 10 SIGNIFICANT AREAS OF NATURAL AND SCIENTIFIC INTEREST LIFE SCIENCE

Site District	Representation In		
	Provincial Park	Candidate Park	Other Sites (Crown, public and private lands)
6-1	—	—	1. Lowville-Bronte Creek Valley 2. Crawford Lake-Milton Outlier Valley 3. Halton Forest South 4. Halton Forest North 5. Ballinafad Pond 6. Beverly Swamp 7. Spongy Lake 8. Eramosa River Valley
6-5	—	—	9. Luther Marsh
6-7	—	—	10. Silver Creek Valley
7-2	—	—	11. Dundas Valley Forests 12. Niagara Section Escarpment 13. Sinclairville Meander Basin Swamp
7-3	—	—	14. Mount Nemo Escarpment 15. Cootes Paradise Drowned Valley 16. Spencer Gorge Escarpment Valley
7-4	17. Bronte Creek Provincial Park	—	18. Iroquois Shoreline Woods
7-6	—	—	19. Grand River Forests 20. Spottiswood Lakes 21. Chesney Bog 22. Cranberry Bog 23. Alps Woods 24. Oliver's Bog

TABLE 11 PARK REPRESENTATION SUMMARY

Site District	Waterway Park	Natural Environment Park
6-1	No suitable park candidate	Candidates being sought in Cambridge and Wingham Districts
6-5	No suitable park candidate	Candidates being sought in Cambridge, Huronia, Owen Sound & Wingham Districts
6-7	Very small portion of this site district is in Cambridge District.	Very small portion of this site district is in Cambridge District
7-2	No suitable park candidate	Target met by existing parks (Pinery, Turkey Point) in Southwestern Region
7-3	No proposed provincial parks. Niagara River will provide representation	Target met by candidate park in Niagara District (Shorthills)
7-4	No candidate park, but Credit River being examined in Maple District	No suitable park candidate
7-6	No suitable park candidate	Candidates being sought in Cambridge, Wingham, Aylmer & Simcoe Districts

Table 11 lists the 7 site districts which characterize natural landscapes in the Cambridge District. The table presents a concise summary of natural environment and waterway park representation for each site district.

Existing and candidate natural environment parks in adjacent administrative districts provide landscape representation for all site districts except 6-1, 6-5, 7-4, and 7-6. Candidates are being investigated in the Central and Southwestern Regions for site districts 6-1, 6-5, and 7-6. It is felt that a potential park site does not exist in the highly urbanized site district 7-4.

There is limited potential in the district for a waterway class park. The Grand River could contribute to waterway representation of site districts 6-1 and 7-2 although it will not become a waterway park.

c. Recreation and Tourism

Bronte Creek is the only provincial park in the district. This recreation class park of 684 hectares (1,690 acres) provides day use recreational opportunities for picnicking, swimming, hiking, and heritage appreciation.

To meet the recreation targets, an additional 1,275 metres of beach, 300 picnic tables, and 150 campsites are needed (Table 12). There is potential in Bronte Creek Provincial Park for provision of 150 more picnic tables and 150 campsites. This still leaves target variances in swimming opportunities and picnicking opportunities.

At present, there are no candidate parks in the district where facilities could be built to provide additional park opportunities. However, potential sites will be investigated.

It should be noted that the target for recreation opportunities pertains only to opportunities in provincial parks. It is assumed that other agencies (e.g., conservation authorities, local municipalities and private campground operators) will continue to provide additional opportunities in line with their present contribution. The total demand for recreational opportunities in the year 2000 cannot be met by provincial parks alone.

TABLE 12 PROVINCIAL PARKS' TARGETS FOR RECREATION— CAMBRIDGE DISTRICT

	Day Use Recreation				Camping	
	# of swimming opportunities	# metres of beach	# of picnicking opportunities	# of picnic tables	# of opportunities	# of campsites
Total Target (Year 2000)	322,200	1,700	384,000	1,600	35,500	150
Existing Facilities (1982)	80,500	425	312,000	1,300	nil	nil
New Facilities Required by the year 2000	241,700	1,275	72,000	300	35,500	150
Available Potentials • in Bronte Creek Provincial Park	nil	nil	36,000	150	35,500	150(1)
• in Candidate Parks	nil	nil	nil	nil	nil	nil
Total Potential	nil	nil	36,000	150	35,500	150(1)
Target Variance	241,700	1,275	36,000	150	nil	nil

(1) Potential is in excess of 150 sites, but only 150 sites are required to meet the target.

4. PROGRAM STRATEGY

a. Contribution to General Policies

Environment:

- identify and seek to protect representative or endangered elements of the natural and cultural landscape; and
- prepare and implement class and individual environmental assessments as required.

The Parks program's contribution to the integrated resource management policy is covered in section c, Resource Management Integration Guidelines.

b. Important Resource Areas and Area Strategies

Significant areas of natural and scientific interest will be identified and appropriate protection

Map 6

CAMBRIDGE DISTRICT

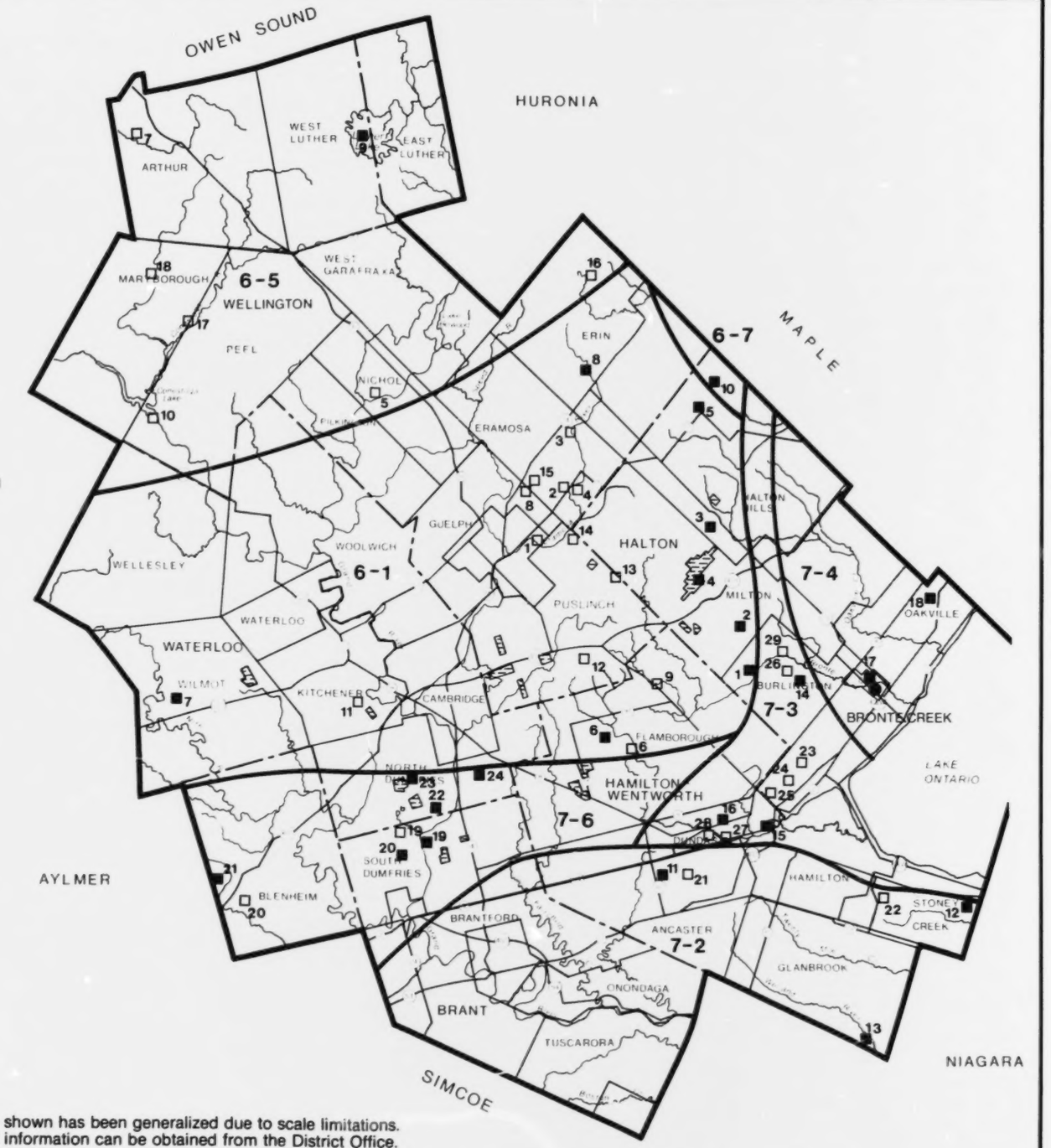
PROVINCIAL PARKS AND RECREATION

LEGEND

- Township Boundary
- County or Regional Boundary
- MNR District Boundary

Important Resource Areas

- Existing Provincial Park
- Areas of Natural and Scientific Interest – Life Science
- Areas of Natural and Scientific Interest – Earth Science
- MNR Managed Lands with Significant Recreation Potential
- Site District Boundary and Number



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0 5 25 Kilometres

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encouraged to achieve the protection target. Management recommendations or prescriptions for each area should be based on factors such as sensitivity or fragility of the feature(s); threat from development; threat of irreversible harm; adequacy of existing controls; land ownership; and access. The types and amounts of uses that are appropriate will vary. A more detailed level of planning will determine this information for each area.

Where areas of natural and scientific interest occur on public land managed by the Ministry of Natural Resources, the ministry will ensure that the land uses and activities which occur provide for the protection of the identified values.

On private lands, the ministry will, through cooperation with others, attempt to ensure that landowners are aware of significant features on their properties and seek the owners' cooperation in protecting such features. The identification of areas of natural and scientific interest on private land does not indicate an intent of the ministry to acquire this land or to restrain or prevent any private use of land.

Strategies for protecting significant areas of natural and scientific interest could include:

- establishing agreements with willing landowners that would guarantee appropriate management practices;
- where a property is owned by another public agency, negotiating for management prescriptions which would protect the feature(s) on the site; and
- encouraging supportive municipal policies.

Further study will be necessary to identify important areas for heritage appreciation.

Bronte Creek Provincial Park will continue to provide recreational opportunities and contribute to the protection objectives. Aside from Bronte Creek Provincial Park, there are no other ministry-owned properties suitable for development of a provincial class park.

c. Resource Management Integration Guidelines

(i) All programs will be considered during the development and review of park master plans and management plans.

(ii) Where possible, provincial parks will contribute to the achievement of the objectives of other programs.

d. External Co-ordination Guidelines

(i) The ministry will encourage the development of a balanced recreation system by promoting improved co-ordination among the ministry, conservation authorities, municipalities, other public agencies and the private sector.

(ii) The ministry will promote landowner agreements to protect significant areas of natural and scientific interest.

(iii) The ministry will encourage outside agencies and other groups to protect significant areas of natural and scientific interest.

(iv) While the Niagara Escarpment plan is being finalized, the ministry will not undertake any actions that would compromise the intent of the proposed plan. Once the plan is approved, the ministry will ensure that all provincial park development and management is carried out in conformity with the plan.

e. Plan Input and Review Guidelines

(i) The ministry will encourage the adoption of official plan policies which place Bronte Creek Provincial Park in a land use category that recognizes park development and use.

(ii) The ministry will encourage land use designations in the official plan which permit only those uses on land adjacent to Bronte Creek Provincial Park which are compatible with park values.

(iii) The ministry will encourage the adoption of official plan policies and designations which provide appropriate protection to significant areas of natural and scientific interest.

G: general recreation

1. OBJECTIVES

The ministry's recreation management efforts are directed primarily to hunting, fishing and provincial parks. There are a number of recreation activities other than hunting and fishing which occur outside provincial parks. The ministry has not developed objectives for these activities. Tentative objectives for this recreation in southern Ontario are:

- to provide and to encourage a wide variety of outdoor recreation opportunities ranging from day use to back-country experiences;
- to identify, select and protect provincially significant natural and cultural resources; and
- to provide an economic contribution through tourism.

2. TARGETS

No specific targets for general recreation have been assigned to the district.

3. RESOURCE ANALYSIS

Land for general recreation is particularly important in the Cambridge District because recreational needs are substantial and growing.

Approximately 500 hectares (1,250 acres) of Crown land are available for public use. In addition, the ministry manages 3,400 hectares (8,000 acres) of agreement forest land owned by municipalities and conservation authorities. Such uses as horseback riding, cross-country skiing, hunting, nature study, hiking, and snowmobiling are permitted.

Trails have been developed in five agreement forests. Currently, there are 25 kilometres (15 miles) of established trails on these lands. Some trails have been specially designated for equestrian and snowmobile use. Additionally these uses occur on the internal road systems. The present road network in agreement forests amounts to 94 kilometres (58 miles).

Conservation authorities in the district currently own lands totalling about 20,000 hectares (49,400 acres). Recreational opportunities provided on these lands are largely of a day-use nature, frequently including some provision for water-oriented activities. Approximately 80 kilometres (50 miles) of trails are provided on these lands.

Numerous interest groups and agencies presently contribute to the achievement of recreation objectives by developing trails and other recreation facilities, and protecting significant natural and cultural features.

The existing contribution of trail groups is substantial. Approximately 130 kilometres (80 miles) of the Bruce Trail run through the district. The Grand Valley, Guelph Radial and Speed River Trails provide a 115 kilometres (70 miles) of hiking trails. The Ontario Trail Riders Association has developed several equestrian trails. Approximately 50 kilometres (30 miles) of the Heritage '77 Trail is based on land in the Cambridge District.

The ministry will continue to assist groups and agencies through the grants provided to conservation authorities, the funding of some municipal recreation development, the granting of permission to develop recreational trails on appropriate public lands, and the provision of information and advice on significant natural features. The ministry will also maintain contacts with local suppliers of recreation opportunities such as trail clubs, and will offer advice on the development and management of facilities by these private suppliers.

Whenever long distance trails intersect property managed by the ministry, consideration will be given to the provision of trail access and facilities such as parking, washrooms and potable water. Provision of such facilities will be decided upon, and will be carried out in conjunction with trail groups.

It is recognized that conflicts between different user groups sometimes develop when trails are

constructed on lands managed by the ministry. When permission is requested to develop recreational trails on appropriate lands, potential conflicts with other users will be considered. Generally, the principle that public lands must be open to the general public, will be followed.

4. PROGRAM STRATEGY

a. Contribution to General Policies

Environment:

- record known locations of provincially rare and endangered species of native plants and take appropriate action for their protection.

b. Important Resource Areas and Area Strategies

Lands in the immediate vicinity of the Niagara Escarpment offer the best potential for providing general recreation. The Yaremko-Ridley property, through which the Bruce Trail runs, is one example. Other areas within the district have moderate capability for recreation and are important locally. These include river valleys such as the Grand and its tributaries; land which exhibits variety in topography; and land adjacent to water bodies capable of supporting boating activities.

Agreement forest properties and Crown land with high recreational value are also considered to be important resource areas. These areas are identified on Map 6. District staff will provide and encourage a wide variety of outdoor recreation opportunities on these lands. The Puslinch Crown Resource Management Area is one example.

c. Resource Management Integration Guidelines

(i) Parks staff will provide technical advice and assistance to the other programs in the planning and operation of recreation facilities on lands managed primarily for purposes other than recreation.

(ii) A review of current recreational development and of the recreation potential of agreement forest and Crown properties will be undertaken.

d. External Co-ordination Guidelines

(i) The ministry will work with outside agencies and interest groups to develop and maintain recreational trails for use by the general public on ministry managed lands.

(ii) In reviewing requests for permission for trail development on Crown lands and other lands it manages, the ministry will consider the following factors:

- the existing use of the property, including established trails;
- the potential impacts on fisheries, wildlife, park (including natural and scientific areas) and forestry values;
- planned uses of the property; and
- existing user groups and potential user conflicts.

Trails will be considered compatible with significant areas of natural and scientific interest where they will not conflict with the protection of the feature(s).

(iii) The ministry will encourage outside agencies and interest groups to develop and maintain access to canoe routes on both public and private land.

H: land administration

1. OBJECTIVE

The objective for land administration in southern Ontario is to facilitate the orderly development and conservation of Ontario's land and water resources.

2. TARGET

Specific land administration targets have not been developed.

3. PROGRAM RESPONSIBILITIES

The lands program works to ensure that both public and private lands and waters are managed in such a manner that natural resource potentials are not degraded. It provides for the use, management and perpetuation of natural resource benefits.

Regulating the use of lakes and rivers is a major responsibility. This provides for:

- public rights in or over such waters;
- the protection of the interests of riparian owners;
- the use and perpetuation of fish and wildlife; and
- ensuring the suitability and appropriate nature of improvements in such waters.

In carrying out the lands program, district staff will be involved in the following activities:

- acquisition and disposition of Crown land;
- management of Crown land, including control over its use and occupation;
- control of the use and occupation of Crown land under water for structures such as pipelines, docks and boathouses and for dredging and filling activities; and
- control of stream alterations related to dams, diversions, pond construction and stream channelization.

4. PROGRAM STRATEGY

a. Contribution to General Policies

The contribution to the integrated resource management policy is covered in section c, Resource Management Integration Guidelines.

b. Program Direction

Since the land administration program includes general land management functions and support functions for other ministry programs, specific priority areas have not been identified.

The objective can generally be achieved through the expression of concerns and interests, and more directly, through the administration and enforcement of provincial legislation.

To achieve the proposed objective, district staff will pursue the following strategies equitably across the entire district:

- maintain the Crown's proprietary interest in land;
- maintain up-to-date records of land grants and dispositions;
- manage Crown lands according to approved plans;
- regulate under the *Beach Protection Act* the removal of earth materials from the bed, bank, beach or shore of lakes and streams;
- regulate under the *Lakes and Rivers Improvement Act* the construction of dams, ponds or other alterations where these works affect or interfere with stream flow.

c. Resource Management Integration Guidelines

(i) Lands and waters management plans (e.g., interim property management and Crown land management plans) and major revisions will be circulated to all supervisors for review to ensure that all district program concerns are considered and supported wherever possible.

(ii) Any proposed disposition will be reviewed with the other programs.

(iii) Lands staff will manage land under interim property management in a manner consistent with its character and capacity to withstand use.

(iv) Approvals for which the lands program is responsible will be co-ordinated with the other programs.

d. External Co-ordination Guidelines

(i) Lands Staff will contact, whenever necessary, the appropriate conservation authority to co-ordinate approvals for stream and shoreline alterations.

(ii) Any lands declared surplus by the ministry will normally be offered first to public agencies by the Ministry of Government Services.

(iii) Disposition of Crown land to an individual must receive municipal approval.

e. Plan Input and Review Guideline

(i) In addition to the other specific program concerns, the ministry will discourage through plan input and review, development that:

- has a detrimental impact on resource management practices, existing or proposed, on Crown land;
- occurs on land designated and approved for acquisition by the Crown; and
- contravenes the intent of the *Lakes and Rivers Improvement Act*, the ministry's hazard land policy, or the provincial flood plain management policy.

This section outlines the actions which should be taken to apply the *Cambridge District Land Use Guidelines.*

Direct action is only possible on lands owned or managed by the ministry. However, if the ministry limits its efforts to these lands, it will be ineffective in achieving the objectives.

The ministry must attempt to influence the use of private land through advice and education. This is possible within the context of the existing regulatory and planning framework.

This document is based on a recognition that the control of land use on private land in Ontario is exercised by municipalities under the authority of the *Planning Act* which is administered by the Ministry of Municipal Affairs and Housing.

The ministry recognizes that private landowners, other government agencies, municipalities, conservation authorities and interest groups are key partners in any effort to achieve effective and integrated resource management. The Ministry of Natural Resources will continue to work with these groups, especially with municipalities through the ministry's plan input and review program to ensure that resource values are considered in local planning documents.

1. IMPLEMENTATION THROUGH MINISTRY PROGRAMS

District staff will prepare management and operational plans which address the intent of the *Land Use Guidelines.* Existing management and operational plans which are not consistent with this document will be amended as appropriate to conform to it.

2. WORKING WITH OTHER AGENCIES

It is essential that the *Land Use Guidelines* be co-ordinated with plans prepared by other agencies. To do this, district staff will:

- build new and stronger relationships with local and regional governments;
- apply the strategy whenever possible by participating in the official planning process;
- ensure that this document is distributed to key officials in regional and local municipalities and their technical personnel; to conservation authorities; to other provincial ministries; and to certain special purpose agencies such as Ontario Hydro whose actions affect natural resources;
- make formal presentations explaining the *Land Use Guidelines* to these groups on request;
- broaden their technical planning assistance to regional municipalities, counties and local governments;
- provide educational aids to explain ministry programs;
- make wider use of exhibits, brochures, newspapers, radio, and participation in community events to provide information on ministry programs;
- become involved in the review of development proposals at the earliest stage possible to advise proponents of ministry concerns;
- participate in the preparation of watershed plans and review of engineering projects developed by conservation authorities; and
- meet with conservation authorities to assess what contribution they can make to ministry objectives.

a. Relationship With Municipalities

The *Cambridge District Land Use Guidelines* may serve as one of the sources of information for ministry involvement in municipal planning.

The ministry will consult with municipal officials and private landowners where the *Land Use Guidelines* indicates the ministry wishes to influence particular land uses on private land. At this time, the needs of other land users will be taken into consideration.

There will be occasions when the ministry feels that certain land uses or proposed developments on private land, while in conformity with municipal planning documents, will have a negative impact on ministry programs or interests. In such situations, the ministry will attempt to resolve the situation through discussions with the proponent, the municipality and the Ministry of Municipal Affairs and Housing.

The ministry will recognize approved official plans and zoning by-laws as the legal control of private land. Ministry programs on private land will conform to these plans.

District staff will continue, through the plan review process, to monitor the effect of land use change on the resource base.

b. Conservation Authorities

Conservation authorities can contribute to the achievement of ministry objectives and targets.

Conservation authorities are independent corporate agencies set up jointly, under the *Conservation Authorities Act*, by the local municipalities and the Province of Ontario to develop and implement water-related land management programs.

The *Conservation Authorities Act*, is administered on behalf of the Province of Ontario by the Ministry of Natural Resources.

Conservation authorities are presently completing watershed plans that will outline the long term direction of all authority programs. The primary program of conservation authorities in flood and erosion control complements the ministry's programs. Other conservation authority programs, particularly those in forestry, fisheries, wildlife and recreation supplement the efforts of the ministry. Both agencies are making every effort to reduce duplication and overlap in their planning and to ensure that the delivery of resource management programs achieves the greatest possible benefits to the people of Ontario.

Some existing authority programs could be integrated with ministry programs and implemented jointly. Areas of mutual interest include public safety, forest management, outdoor recreation, fish and wildlife and natural areas. More specifically, joint efforts are desired in:

- the development of authority flood and fill regulations in association with municipalities;
- the management of forests on authority lands, and the identification of lands where new planting would assist land and water management programs;
- the provision of outdoor recreation opportunities (hunting, trapping, wildlife viewing, trails etc.) on appropriate authority lands;
- the protection of wetlands, and significant areas of natural and scientific interest; and
- the encouragement of good land use practices on private land through erosion control projects, promotion of stream rehabilitation, including planting riparian vegetation along streams, and creation of wildlife habitat through planting on authority and private lands.

In working with conservation authorities, district staff will:

- provide information required in the preparation of watershed plans;
- suggest where targets can be met within individual watersheds;
- consider the contribution authorities can make to the achievement of targets;
- consult with authority planning staff on plan review matters;
- co-ordinate tree planting and forest management activities;
- consult with authority planning staff when reviewing new pit and quarry applications;
- involve authority staff in the preparation of fisheries and wildlife management plans;
- ensure that provincial floodplain policies are adhered to;
- provide technical assistance in the management of properties owned by conservation authorities;
- share data and information; and
- integrate water management objectives into programs carried out by the ministry.

c. Provincial Ministries and Agencies

It is also critical that programs and projects of other provincial ministries and agencies with significant land use interests be co-ordinated with those of the ministry. Among these are the Ministries of Agriculture and Food, Environment, Transportation and Communication, Tourism and Recreation, Citizenship and Culture and Ontario Hydro.

(i) Ontario Ministry of Agriculture and Food

From an agricultural point of view, the district is very fortunate in having farmland of high quality. The policy of the Government of Ontario is that the greatest possible area of land which is predominantly of high or moderate capability for agriculture should be kept available for farming.

In carrying out their resource management responsibilities, district staff will be particularly sensitive to agricultural interests. This will require close cooperation with the Ministry of Agriculture

and Food, municipalities and landowners.

The ministry normally will not encourage or support activities or land uses which result in the loss of productive agricultural land. The ministry will encourage compatible uses on high capability land presently not in agricultural production.

Generally, on public land, the ministry will maintain high capability agricultural land, or other sites as identified by the Ministry of Agriculture and Food, in uses which do not preclude the use of these lands for agriculture.

(ii) Ontario Ministry of The Environment The Ministry of Natural Resources will work closely with the Ministry of The Environment in meeting the requirements of the *Environmental Assessment Act* and will work closely with that ministry in monitoring impacts on the environment related to natural resources.

The two ministries have jointly developed guidelines in this regard, related to water quality and fisheries issues.

The Ministry of Natural Resources has responsibility for identifying the fisheries values of waterbodies and watercourses with respect to meeting the Ontario Government's fisheries mandate. This identification is based on the *Land Use Guidelines* and, as developed, local fisheries management plans. The Ministry of the Environment is responsible for determining existing water quality and predicting the effects of proposed development on water quality. The latter information is used by the two ministries to assess potential effects on fisheries values.

(iii) Ontario Ministry of Citizenship and Culture The Ministry of Natural Resources works in cooperation with the Ministry of Citizenship and Culture in the identification and protection of archaeological and historical resources on public land. The co-ordination occurs through regular liaison with heritage planners and field archaeologists, and through requests for assistance when heritage conservation issues arise.

The ministry is working closely with the Ontario Heritage Foundation, an agency of the Ministry of Citizenship and Culture, on projects related to protection of areas of natural and scientific interest.

(iv) Niagara Escarpment Commission The Niagara Escarpment Commission is preparing a plan for the designated portion of the Niagara Escarpment. The Ministry of Natural Resources has made considerable input to the commission and there has been good cooperation between the two agencies. While the Niagara Escarpment plan is being finalized by the Ontario Government, the ministry will not undertake any actions that would compromise the intent of the proposed plan. Once the plan is approved, the ministry will ensure that its programs are carried out in conformity with the plan.

3. WORKING WITH LANDOWNERS

The support of landowners, both private and public, is essential to ensure the effectiveness of the *Land Use Guidelines*. Important steps must be taken to inform landowners in significant program areas about ministry objectives.

In working with landowners, district staff will:

- inform landowners of natural resource values on their properties;
- attempt to protect natural resources as much as possible and attempt to secure both the site-specific objectives desired by the proponent and the ministry;
- provide technical advice on forest management and planting; fisheries management; wildlife management; mineral resources; and provide services such as tree planting, tree marking, and pond surveys;
- investigate means for acquiring access rights and easements, where regulations or outright purchase of land are not appropriate or required for protecting natural resources;
- provide long term assistance to owners of five or more acres of woodlot who enter into agreements under the *Woodlands Improvement Act;* and
- manage agreement forests under the *Forestry Act.*

4. WORKING WITH RESOURCE USERS

In working with resource users, district staff will:

- consider concerns expressed by private persons or organizations regarding management issues;
- seek the advice of interest and community groups when designing new recreation facilities or developing management plans;
- encourage users to adopt practices which will conserve resources and provide benefits for other users; and
- provide information on where public land is located and the recreational or other activities permitted on it.

5. SUMMARY

The *Land Use Guidelines* will be made operative through:

- a management and operational planning procedure;
- the existing planning and regulatory framework;
- extension and assistance programs for private land;
- input to, and review of, municipal official plans and zoning by-laws and review of specific development proposals;
- resource inventory and monitoring; and
- ongoing consultation with local and regional municipalities, conservation authorities, other ministries and agencies, interest groups, resource users and the public at large.

The ministry has identified integrated resource management as a major means of applying the *Land Use Guidelines.* Map 7, General Resource Areas, identifies broad areas where integrated management will be applied. The key to effective management of natural resources in the areas shown on Map 7 will be cooperative land use planning under a comprehensive, inter-agency approach.

APPENDIX

A: highlights of public consultation

Public consultation began with the holding of five open houses in June, 1982. At that time, the public was provided with an overview of the ministry's role and responsibilities and its planning system. Visitors at the open houses were asked to provide any additional knowledge they had of the planning area and to raise any problems or issues they felt should be addressed. A total of 168 persons visited the June open houses.

In July, 1982 the draft *Cambridge District Land Use Strategy* was released and in August, five additional open houses were held to explain the direction proposed in the *Strategy* and to invite comment. Attendance at the August open houses was 300 persons.

The specific dates and locations of the open houses were as follows:

June 8	Cambridge Holiday Inn (Cambridge)
June 10	Greensville Public Library (Township of Flamborough)
June 14	North York Civic Centre (North York)
June 15	Milton Public Library (Milton)
June 17	Wellington Place (Nichol Township)
Aug. 9	North York Civic Centre (North York)
Aug. 10	Cambridge Holiday Inn (Cambridge)
Aug. 17	Wellington Place (Nichol Township)
Aug. 19	Hamilton Central Library (Hamilton)
Aug. 24	Milton Public Library (Milton)

In addition to receiving many verbal and written comments as a result of the open houses, district staff held follow-up meetings with conservation authorities and municipalities at their request. Tables 13 and 14 provide a brief summary of public contacts and responses.

TABLE 13 SUMMARY OF CONTACTS

No. of Background Information Open Houses	5
Background Open House Attendance(1)	168
No. of Draft Strategy Open Houses	5
Draft Strategy Open House Attendance(1)	300
Comment Sheets Distributed	300 (Approximate)
Draft Strategies Distributed	800
Phone Calls Received	10
Speeches Made	2
Meetings with Municipalities	2
Meetings with Conservation Authorities	2
Meetings with Other Agencies	2
Meetings with Interest Groups	0
Interviews with Media	10

(1) Excludes attendance at the North York Open House which was held jointly for all districts in the ministry's Central Region.

Eight hundred copies of the draft *Strategy* were distributed to the public. This total includes copies sent to local and regional municipalities, conservation authorities, other government agencies, members of the provincial parliament, interest groups, and industry representatives. The drafts were accompanied by a comment sheet and a letter encouraging the submission of comments to the district office. A total of 174 responses were received by November 1, 1982.

The major issues raised in the public responses were those concerning mineral aggregates and the ministry's planning role in relation to other jurisdictions. A dominant theme in many of the responses was the need for co-ordinated land use planning among all levels of government. The Minister personally reviewed the district summary and analysis of public comment, and discussed the draft document with the District Manager.

Based on the analysis, and evaluation of all the public input received this document was prepared.

Copies of all responses are available for review at the district office and the public reading room at the ministry's main office in Toronto.

TABLE 14 NUMERICAL ANALYSIS OF PUBLIC RESPONSES

Response Documentation / Category of Respondent	Individual	Conservation Authority	Government Agency	M.P.P.	Municipal	Interest Group[1]	Industry[1] (Co. or Assoc.)	Category Unknown (Anon.)	Total
Background Open House Comment Sheet	27	—	2	—	5	3	2	1	40
Background Open House Record of Conversation	11	1	—	—	—	—	—	—	12
Draft Strategy Open House Comment Sheet	25	—	—	—	—	1	—	—	26
Draft Strategy Open House Record of Conversation	3	1	—	—	5	1	1	—	11
Mailed Comment Sheet	10	—	—	—	—	3	2	—	15
Letter/Brief	18	5	4	—	24	11	7	—	69
Record of Conversation	—	—	—	—	1	—	—	—	1
Total	94	7	6	—	35	19	12	1	174

(1) Responses which are included in the Interest Group and Industry columns are those which were received from official representatives.

GLOSSARY

Candidate Park
An area designated in Ministry of Natural Resources *Land Use Guidelines* which may be given official status as a park at some time in the future.

Capability
The natural ability of an area to provide continuous opportunity for benefits under an assumed level of management.

Capacity
The upper limit to which an area of land, or water may be used or developed without an undesirable change taking place in the environment. Also called carrying capacity.

Crown Land
All land (including land under water) held by the province, both land which has never been sold and land which has been re-acquired.

Goal
A general purpose to which the ministry aspires.

Integrated Resource Management
The co-ordination of resource management programs to ensure that conflicts are minimized and that management which would benefit several programs is encouraged. Integrated management encourages multiple use, but recognizes that in some circumstances management of areas for a single purpose may be necessary.

Land Use Guidelines
A document which displays direction concerning the use of land and water in a defined area. It identifies where and how the ministry intends to achieve its objectives in a specific district through the use of Crown land and through influencing the use of private land.

Land Use Planning
A process which culminates in a commitment regarding the use of land.

Management
The judicious use of means to achieve ends. Management may have various levels of intensity.

Multiple Use
A resource management or planning concept applied to very large areas to indicate that all basic uses are accommodated. Typically, two or more uses may occur on the same general area at the same time or in sequence.

Net Merchantable Volume
The tree volume remaining after deductions are made for tops, stumps, limbwood, and allowance for defective wood.

Objective
A quantifiable end result to be achieved.

Occasion
A measure of actual recreational use describing the number of times a recreation resource or facility is used by individuals in a given time period. An occasion is considered not to exceed one day in duration.

Operational Plan
A part of a resource management plan stating the extent (includes human and financial resources) of all work of any nature to be carried out during one or more years of the management period.

Policy
A decision concerning the objectives to be achieved and the means of achieving them.

Production Forest Land
An area dedicated to the growing of merchantable timber or the production of other forest products.

Productive Forest Land
Those lower capability agricultural lands, both forested and open and higher capability lands with existing forest cover, from which the ministry hopes to achieve its forestry targets.

Program
An activity undertaken by the ministry to provide a service or manage a particular resource.

Public Land
Any land owned or administered by a public body or agency. It includes federal, provincial and municipally owned lands and lands held by agencies such as parks commissions and conservation authorities.

Resource
Any commodity that meets a need.

Resource Management
The control and co-ordination of the use of resources to achieve specific ends. Commonly applied in particular to natural resources.

Resource Management Plan
A plan by which the policies, objectives and targets usually of an individual program (except in the case of an integrated resource management plan) are implemented for a specific resource.

Sequential Use
Where one use is followed by another in planned sequence.

Strategy
Planned actions or measures to achieve a desired end.

Target
A quantified end to be achieved or completed by a specific date.

Map 7

CAMBRIDGE DISTRICT

GENERAL RESOURCE AREAS

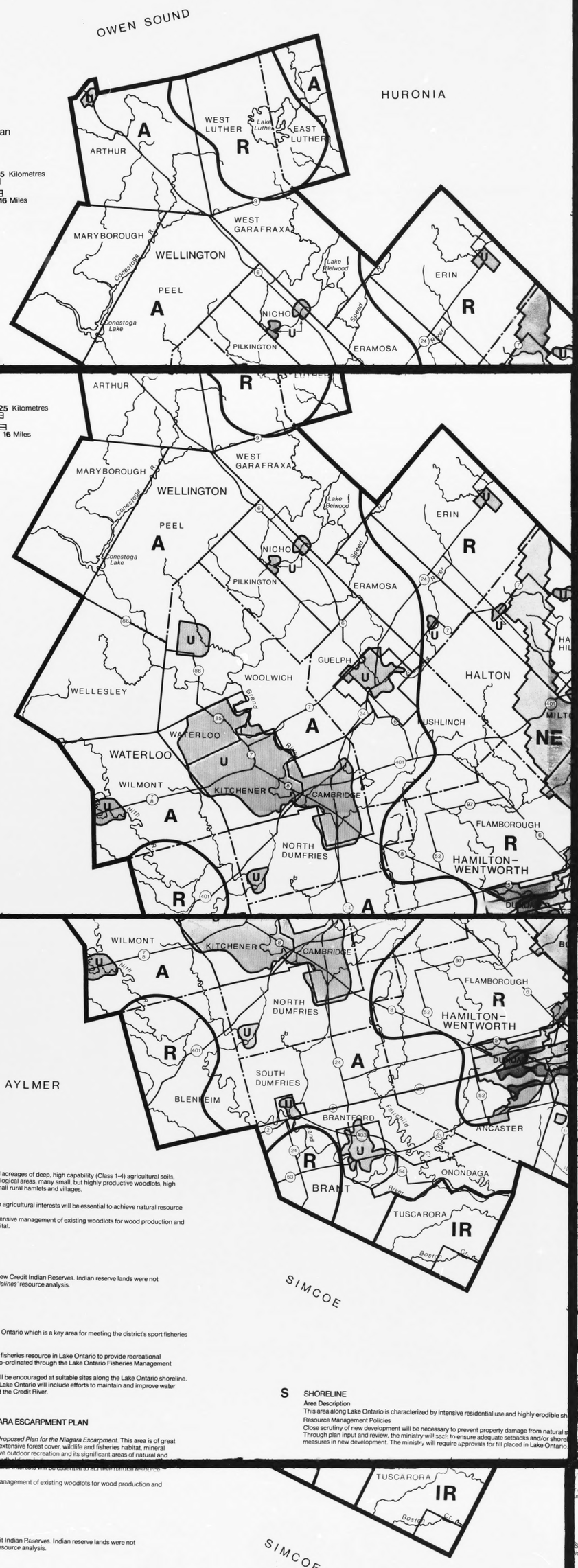
LEGEND

- Township Boundary
- County or Regional Boundary
- MNR District Boundary
- Area Boundary
- A — Area Code
- U — Urban and Urbanizing Boundary
- NE — Area of the Proposed Niagara Escarpment Plan

0 5 10 15 20 25 Kilometres
0 4 8 12 16 Miles

SCALE 1:250,000

N



A AGRICULTURE

Area Description
This area is characterized by substantial acreages of deep, high capability (Class 1-4) agricultural soils, moderate slopes, no large important biological areas, many small, but highly productive woodlots, high quality sand and gravel deposits, and small rural hamlets and villages.

Resource Management Policies
Co-ordination of ministry programs with agricultural interests will be essential to achieve natural resource objectives in this area.
In this area, the ministry will promote intensive management of existing woodlots for wood production and other forest benefits such as wildlife habitat.

IR INDIAN RESERVE

Area Description
This area includes the Six Nations and New Credit Indian Reserves. Indian reserve lands were not considered in the *District Land Use Guidelines'* resource analysis.

L LAKE ONTARIO

Area Description
This area includes the water area of Lake Ontario which is a key area for meeting the district's sport fisheries objective.

Resource Management Policies
The ministry will continue to manage the fisheries resource in Lake Ontario to provide recreational opportunities. This management will be co-ordinated through the Lake Ontario Fisheries Management Committee.
Public access to the fisheries resource will be encouraged at suitable sites along the Lake Ontario shoreline.
Management of the fisheries resource in Lake Ontario will include efforts to maintain and improve water quality in Bronte and Oakville Creeks and the Credit River.

NE AREA OF THE PROPOSED NIAGARA ESCARPMENT PLAN

Area Description
This unit covers the area included in the *Proposed Plan for the Niagara Escarpment*. This area is of great importance to the ministry because of its extensive forest cover, wildlife and fisheries habitat, mineral aggregate potential, suitability for extensive outdoor recreation and its significant areas of natural and scientific interest. The ministry also has landholdings in the escarpment area. These values are reflected to a considerable extent in the proposed escarpment plan.

Resource Management Policies
The escarpment will continue to be one of the most important areas for the ministry's management activities. Although this management will be directed at achieving ministry objectives, it must also be done in the context of the Niagara Escarpment plan. While the Niagara Escarpment plan is being finalized, the ministry will not undertake any actions that would compromise the intent of the plan. Once the plan is approved, the ministry will ensure that its programs are carried out in conformity with the plan.

R RURAL

Area Description
This area is characterized by substantial areas of shallow soils, wetlands, forest cover, pastures, and uncultivated land providing wildlife habitat. It is characterized by a low degree of development, except for the near-urban areas where rural estate residences are common. Many tracts of key public land under active forest and wildlife management are found in this area.

Resource Management Policies
The ministry will protect, manage, and enhance forest, wildlife, and recreational resources in this area.
Integrated resource management will be particularly critical to the achievement of objectives.
The following mixture of resource management is proposed:
- protection of wetlands for ecological and wildlife-related recreation purposes;
- forest management for multiple objectives, including general recreation, wildlife habitat, water management and aesthetics;
- protection of important headwater areas to maintain important fisheries;
- protection of important wildlife habitats;
- stringent controls on stream alterations;
- strict control and close monitoring of mineral resource extraction activities to protect other natural resource values;
- tree planting of marginal and low viability agricultural lands for control of runoff and other benefits.

S SHORELINE

Area Description
This area along Lake Ontario is characterized by intensive residential use and highly erodible shore materials.

Resource Management Policies
Close scrutiny of new development will be necessary to prevent property damage from natural shoreline processes.
Through plan input and review, the ministry will seek to ensure adequate setbacks and/or shoreline protection measures in new development. The ministry will require approvals for fill placed in Lake Ontario.

SC SPECIALTY CROPS

Area Description
This area contains good tender fruit and grape lands. A combination of soil, climate, and farming skills allows the growing of agricultural products difficult to produce elsewhere in the province.

Resource Management Policies
The ministry recognizes the need to maintain these exceptional agricultural areas. Only those resource management activities which conform to the Ministry of Agriculture and Food's *Foodland Guidelines* and complement the agricultural land uses of the area will be supported by this ministry.

U URBAN AND URBANIZING

Area Description
This area ranges from towns and villages with a modest urban character to large, varied communities that contain a sizeable or growing population. Development ranges from low intensity residential housing, especially single family homes, often mixed with open space areas, to a high intensity and specialized mixture of commercial, industrial and residential uses with an extensive network of private and public transportation facilities. Population density is generally greater than 77 persons per square kilometre or 200 persons per square mile. The area includes lands designated in approved official plans for future urban expansion.

Resource Management Policies
Urban development will limit the potential for achieving objectives in this area.
Forest management potential is considered to be low in urban and urbanizing areas. Most forests in these areas will not be considered as important for meeting the wood production target.
Where aggregate resources are present, the feasibility of extracting them prior to urban development should be investigated.
The ministry will seek to ensure that natural hazards such as flooding and erosion are considered in new urban development.
The ministry will discourage further expansion of urban development into important resource areas.

Ontario
Ministry of Natural Resources

Hon. Alan W. Pope
Minister

W. T. Foster
Deputy Minister

POOR

QUALITY

ORIGINAL